

Please type a plus sign (+) inside this box → ☐

PTO/SB/05 (2/98)

Approved for use through 09/30/00. OMB 0651-0032  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>UTILITY PATENT APPLICATION TRANSMITTAL</b> <small>(Form for new nonprovisional applications under 37 CFR 1.53(h))</small>		Attorney Docket No. <b>38-21(15749)B</b>	
		First Named Inventor or Application Identifier <b>FISHER</b>	
		Title <b>Nucleic Acid Sequences from <i>Cyanidium caldarium</i> and Uses Thereof</b>	
		Express Mail Label No. _____	
<b>APPLICATION ELEMENTS</b> <small>MPEP chapter 600 concerning utility patent application contents</small>		<b>ADDRESS TO:</b> Assistant Commissioner for Patents Box Patent Application Washington, DC 20231	
<p>1. <input checked="" type="checkbox"/> *Fee Transmittal Form (Form PTO-1082) <small>(Submit an original and a duplicate for fee processing)</small></p> <p>2. <input checked="" type="checkbox"/> Specification [Total Pages <b>113</b> ] <small>(preferred arrangement set forth below)</small></p> <ul style="list-style-type: none"><li>- Descriptive title of the Invention</li><li>- Cross References to Related Applications</li><li>- Statement Regarding Fed sponsored R&amp;D</li><li>- Reference to Microfiche Appendix</li><li>- Background of the Invention</li><li>- Brief Summary of the Invention</li><li>- Brief Description of the Drawings (if filed)</li><li>- Detailed Description</li><li>- Claims</li><li>- Abstract of the Disclosure</li></ul> <p><input type="checkbox"/> Drawing(s) (35 USC 113) [Total Sheets <b>6</b> ]</p> <p>Oath or Declaration [Total Pages <b>6</b> ]</p> <p>a. <input checked="" type="checkbox"/> Newly executed (original or copy)</p> <p>b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d)) <small>(for continuation/divisional with Box 17 completed)</small> [Note Box 5 below]</p> <p>i. <input type="checkbox"/> <b>DELETION OF INVENTOR(S)</b> <small>Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.13(b).</small></p> <p>5. <input type="checkbox"/> Incorporation By Reference (useable if Box 4b is checked) <small>The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.</small></p>		<p>6. <input type="checkbox"/> Microfiche Computer Program (Appendix)</p> <p>7. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)</p> <p>a. <input checked="" type="checkbox"/> Computer Readable Copy</p> <p>b. <input checked="" type="checkbox"/> Paper Copy (identical to computer copy)</p> <p>c. <input checked="" type="checkbox"/> Statement verifying identity of above copies</p>	
<b>ACCOMPANYING APPLICATION PARTS</b>			
<p>8. <input type="checkbox"/> Assignment Papers (cover sheet &amp; document(s))</p> <p>9. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of Attorney <small>(when there is an assignee)</small></p> <p>10. <input type="checkbox"/> English Translation Document (if applicable)</p> <p>11. <input checked="" type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 <input checked="" type="checkbox"/> Copies of IDS Citations</p> <p>12. <input type="checkbox"/> Preliminary Amendment</p> <p>13. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) (Two) <small>(should be specifically itemized)</small></p> <p>14. <input type="checkbox"/> *Small Entity Statement(s) <input type="checkbox"/> Statement filed in prior application, Status still proper and desired</p> <p>15. <input type="checkbox"/> Certified Copy of Priority Document(s) <small>(if foreign priority is claimed)</small></p> <p>16. <input type="checkbox"/> Other:</p>			
<small>*NOTE FOR ITEMS 1 &amp; 14 IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28)</small>			
<p>17. If a <b>CONTINUING APPLICATION</b>, check appropriate box and supply the requisite information:</p> <p><input type="checkbox"/> Continuation <input type="checkbox"/> Divisional <input type="checkbox"/> Continuation-in-part (CIP) of prior application No: _____</p> <p>Prior Application Information: Examiner: _____ Group/Art Unit: _____</p>			
<b>18. CORRESPONDENCE ADDRESS</b>			
<p><input type="checkbox"/> Customer Number or Bar Code Label or <input checked="" type="checkbox"/> Correspondence address below</p> <p style="text-align: center;"><small>(Insert Customer No. or Attach bar code label here)</small></p>			
NAME		Lawrence M. Lavin, Jr., Esq.	
		Monsanto/GD Searle	
ADDRESS		Patent Department Central	
		PO Box 5110	
CITY	Chicago	STATE	Illinois
ZIP CODE	60680-5110		
COUNTRY	US	TELEPHONE	(314) 694-3602
FAX	(314) 694-1671		
Name (Print/Type)	Lawrence M. Lavin, Jr.	Registration No. (Attorney/Agent)	30,768
Signature	<i>Lawrence M. Lavin, Jr.</i>	Date	April 3, 2000

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

*by Dd R MBL 41,408*

HOWREY & SIMON

Attorneys at Law  
1299 Pennsylvania Ave , NW  
Washington, DC 20004-2402  
(202) 783-0800  
FAX (202) 383-6610

April 3, 2000

**Box Patent Application**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Re: U.S. Non-Provisional Utility Patent Application  
Application No.: To Be Assigned  
Filed: Herewith  
For: **Nucleic Acid Sequences from *Cyanidium caldarium* and Uses Thereof**  
Inventors: Dane K. FISHER *et al.*  
Atty. Docket: 38-21(15749)B

Sir:

The following documents are forwarded herewith for appropriate action by the U.S. Patent and Trademark Office:

1. Utility Patent Application Transmittal (PTO/SB/05);
2. Form PTO-1082 (in duplicate);
3. U.S. Utility Patent Application entitled:

**Nucleic Acid Sequences from *Cyanidium caldarium* and Uses Thereof**

and naming as inventors:

**Dane K. FISHER and Raghunath V. LALGUDI,**

the application consisting of:

- a. A specification containing:
  - (i) 111 pages of a description prior to the claims;
  - (ii) 1 pages of claims (7 claims);
  - (iii) a one (1) page abstract; and
  - (iv) 2,451 pages of a sequence listing;



4. Statement Regarding Sequence Submission;
5. A CD-ROM containing the sequence listing;
6. Original Declaration and Power of Attorney, executed by inventor Dane K. Fisher (3 pages);
7. Original Declaration and Power of Attorney, executed by inventor Raghunath V. Lalgudi (3 pages);
8. An Information Disclosure Statement;
9. Form PTO-1449 (1 page), with 8 accompanying documents; and
10. Two (2) return postcards.

It is respectfully requested that, of the two attached postcards, one be stamped with the filing date of these documents and returned to our courier, and the other, prepaid postcard, be stamped with the filing date and unofficial application number and returned as soon as possible.

In accordance with 37 C.F.R. § 1.821(f), the paper copy of the sequence listing and the computer readable copy of the sequence listing submitted herewith in the above application are the same.

Respectfully submitted,



David R. Marsh (Reg. No. 41,408)

Enclosures

**MONSANTO/GD SEARLE**  
**Patent Department Central**  
**P.O. Box 5110**  
**Chicago, Illinois 60680-5110**  
**(314) 694-3602**

Attorney Docket No. 38-21(15749)B

ASSISTANT COMMISSIONER FOR PATENTS  
 Washington, DC 20231

Sir:

Transmitted herewith for filing is the patent application of

Inventors: Dane K. FISHER et al.For: Nucleic Acid Sequences from *Cyanidium caldarium* and Uses Thereof

Enclosed are:

- ☐ \_\_\_\_\_ sheets of informal drawings.  
☐ An assignment of the invention to \_\_\_\_\_  
☐ Form PTO-1595.  
☐ A certified copy of a \_\_\_\_\_ application.  
☐ A verified statement to establish small entity status under 37 C.F.R. § 1.9 and 37 C.F.R. § 1.27.  
☒ Executed Combined Declaration and Power of Attorney for Patent Application (6 total pages).

The filing fee has been calculated as shown below:

(Col. 1)		(Col. 2)	SMALL ENTITY		OR	OTHER THAN A SMALL ENTITY	
FOR	NO. FILED	NO. EXTRA	RATE	FEE		RATE	FEE
BASIC FEE				345.00	OR		690.00
TOTAL CLAIMS	7 - 20 =	*	x 9 =		OR	x 18 =	0.00
INDEP. CLAIMS	3 - 3 =	*	x 39 =		OR	x 78 =	0.00
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENTED			+ 130 =		OR	+ 260 =	
			TOTAL	\$	OR	TOTAL	\$ 690.00

\*If the difference in Col. 1 is less than zero, enter "0" in Col. 2

- ☒ Please charge my Deposit Account No. 13-4125 in the amount of \$690.00. A duplicate copy of this sheet is attached.
- ☐ Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the filing fee is enclosed.
- ☒ The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 13-4125 referencing docket number 38-21(15746)B.  
 A duplicate copy of this sheet is attached.
- ☒ Any additional filing fees required under 37 C.F.R. § 1.16.  
☒ Any patent application processing fees under 37 C.F.R. § 1.17.
- ☐ The U.S. Patent and Trademark Office is hereby authorized to charge payment of the following fees during the pendency of this application or credit any overpayment to Deposit Account No. 13-4125 referencing docket number \_\_\_\_\_.  
 A duplicate copy of this sheet is attached.
- ☐ Any patent application processing fees under 37 C.F.R. § 1.17.  
☐ The issue fee set in 37 C.F.R. § 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b).  
☐ Any filing fees under 37 C.F.R. § 1.16 for presentation of extra claims.

Date: April 3, 2000

Lawrence M. Lavin Jr.  
 Lawrence M. Lavin, Jr. (Reg. No. 30,768)

by Rd R. Maff 41, 408

# Nucleic acid sequences from *Cyanidium caldarium* and Uses thereof

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority under 35 U.S.C §119(e) of U.S. Provisional Application

5 Serial No. 60/128,439 filed on April 6, 1999, the entire content of which is incorporated herein  
by reference.

## FIELD OF THE INVENTION

The present invention is in the field of molecular biology; more particularly, the present  
10 invention relates to nucleic acid sequences from the unicellular red algae, *Cyanidium caldarium*.  
The invention encompasses nucleic acid molecules that encode proteins and fragments of  
proteins. In addition, proteins and fragments of proteins so encoded and antibodies capable of  
binding the proteins are encompassed by the present invention. The invention also relates to  
methods of using the disclosed nucleic acid molecules, proteins, fragments of proteins, and  
15 antibodies, for example, for gene identification and analysis, and preparation of constructs.

## BACKGROUND OF THE INVENTION

### I. *Cyanidium caldarium*

The present invention relates in part to DNA sequences from cDNA libraries from the  
20 unicellular red algae, *Cyanidium caldarium*. *Cyanidium* belongs to the eucaryotic cell category of  
algae and was first identified in the thermal areas of Yellowstone National Park (Tilden,  
*Botanical Gazette*, 25: 89-105 (1898), herein incorporated by reference in its entirety). The

eukaryotic red alga, *Cyanidium caldarium*, is both acidophilic and thermophilic. This alga is the sole photosynthetic organism in habitats with temperatures greater than 40°C and pH less than 5. The upper temperature limit for the unicellular red algae *Cyanidium caldarium* is 55°C to 60°C and optimum temperature for growth is 45°C (Doemel and Brock, *J. Gene. Microbiol.* 67:17-32 (1971), herein incorporated by reference in its entirety). The lower temperature limits for the algae are 35°C to 36°C in aquatic habitats and 10°C in soils. Its growth is favored by high temperatures and low pH that exclude other photosynthetic organisms (Fukuda, *Botanical Magazine (Tokyo)* 71: 79-86 (1958); Allen, *Arch. Mikerobiol.* 32: 270-277(1959); Ascione, *et al.*, *Science* 152: 752-754 (1966), all of which are herein incorporated by reference in their entirety). *Cyanidium caldarium* can grow heterotrophically on glucose or sucrose in the dark or autotrophically in the light, undergoing photosynthesis. In nature the unicellular red algae are found living in habitats of widely varying light intensity.

The thermophilic characteristics of *Cyanidium caldarium* has been extensively investigated. It has been found that most *Cyanidium caldarium* proteins are stable at 55°C and more heat-stable than proteins from mesophilic algae (Enami, *Plant Cell Physiol.* 19:869-876 (1978), herein incorporated by reference in its entirety). Ribulose 1,5-bisphosphate carboxylase isolated from *Cyanidium caldarium* shows the optimum enzyme activity at 45°C, indicating that thermostability is the result of inherent stability of the enzyme molecule (Ford, *Biochim. Biophys. Acta.* 569:239-248 (1979), herein incorporated by reference in its entirety).

The unicellular red alga *Cyanidium caldarium* has a small genome, 13 Mb (Ohta, *et al.*, *Plant Cell Physiol.* 33: 657-661 (1992), herein incorporated by reference in its entirety). The cells of *Cyanidium caldarium* contain a nucleus, a mitochondrion, and a chloroplast, each having

its own genome. It has been found that the chloroplast *trnk* gene from *Cyanidium caldarium* resembles those of higher plants with respect to nucleotide sequences while the gene resembles those of lower plants with respect to gene structure (Ohta, *et al.*, *Plant Cell Physiol.* 33:657-661(1972), herein incorporated by reference in its entirety). The nuclear genome of *Cyanidium caldarium* has two types of differentially photo-regulated nuclear genes that encode  $\sigma$  factors for chloroplast RNA polymerase (Oikawa, *et al.*, *Gene* 210:277-285 (1998), herein incorporated by reference in its entirety).

## II. EXPRESSED SEQUENCE TAG NUCLEIC ACID MOLECULES

Expressed sequence tags, or ESTs, are short sequences of randomly selected clones from a cDNA (or complementary DNA) library which are representative of the cDNA inserts of these randomly selected clones (McCombie, *et al.*, *Nature Genetics*, 1:124-130 (1992); Kurata, *et al.*, *Nature Genetics*, 8: 365-372 (1994); Okubo, *et al.*, *Nature Genetics*, 2: 173-179 (1992), all of which are herein incorporated by reference in their entirety). The randomly selected clones comprise inserts that can represent a copy of up to the full length of a mRNA transcript.

Using conventional methodologies, cDNA libraries can be constructed from the mRNA (messenger RNA) of a given tissue or organism using poly dT primers and reverse transcriptase (Efstratiadis, *et al.*, *Cell* 7:279-288 (1976); Higuchi, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 73:3146-3150 (1976); Maniatis, *et al.*, *Cell* 8:163 (1976); Land, *et al.*, *Nucleic Acids Res.* 9:2251-2266 (1981); Okayama, *et al.*, *Mol. Cell. Biol.* 2:161-170 (1982); Gubler, *et al.*, *Gene* 25:263 (1983), all of which are herein incorporated by reference in their entirety).

Several methods may be employed to obtain full-length cDNA constructs. For example, terminal transferase can be used to add homopolymeric tails of dC residues to the free 3'

hydroxyl groups (Land, *et al.*, *Nucleic Acids Res.* 9:2251-2266 (1981), herein incorporated by reference in its entirety). This tail can then be hybridized by a poly dG oligo which can act as a primer for the synthesis of full length second strand cDNA (Okayama and Berg, *Mol. Cell Biol.* 2:161-170 (1982), herein incorporated by reference in its entirety), report a method for obtaining

5 full length cDNA constructs. This method has been simplified by using synthetic primer-adapters that have both homopolymeric tails for priming the synthesis of the first and second strands and restriction sites for cloning into plasmids (Coleclough, *et al.*, *Gene* 34:305-314 (1985), herein incorporated by reference in its entirety) and bacteriophage vectors (Krawinkel, *et al.*, *Nucleic Acids Res.* 14:1913 (1986); Han, *et al.*, *Nucleic Acids Res.* 15:6304 (1987), all of

10 which are herein incorporated by reference in their entirety).

These strategies have been coupled with additional strategies for isolating rare mRNA populations. For example, a typical mammalian cell contains between 10,000 and 30,000 different mRNA sequences (Davidson, *Gene Activity in Early Development*, 2nd ed., Academic Press, New York (1976), herein incorporated by reference in its entirety). The number of clones

15 required to achieve a given probability that a low-abundance mRNA will be present in a cDNA library is  $N = (\ln(1-P))/(\ln(1-1/n))$  where N is the number of clones required, P is the probability desired, and 1/n is the fractional proportion of the total mRNA that is represented by a single rare mRNA. (Sambrook, *et al.*, *Molecular Cloning: A Laboratory Manual*, 2nd ed., Cold Spring Harbor Laboratory Press (1989), herein incorporated by reference in its entirety.).

20 A method to enrich preparations of mRNA for sequences of interest is to fractionate by size. One such method is to fractionate by electrophoresis through an agarose gel (Pennica, *et al.*, *Nature* 301:214-221 (1983), herein incorporated by reference in its entirety). Another such method employs sucrose gradient centrifugation in the presence of an agent, such as

methylmercuric hydroxide, that denatures secondary structure in RNA (Schweinfest, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 79:4997-5000 (1982), herein incorporated by reference in its entirety).

A frequently adopted method is to construct equalized or normalized cDNA libraries (Ko, *Nucleic Acids Res.* 18:5705-5711 (1990); Patanjali, S. R. *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 88:1943-1947 (1991), all of which are herein incorporated by reference in their entirety).

Typically, the cDNA population is normalized by subtractive hybridization (Schmid, *et al.*, *J. Neurochem.* 48:307-312 (1987); Fagnoli, *et al.*, *Anal. Biochem.* 187:364-373 (1990); Travis, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 85:1696-1700 (1988); Kato, *Eur. J. Neurosci.* 2:704 (1990); and Schweinfest, *et al.*, *Genet. Anal. Tech. Appl.* 7:64 (1990), all of which are herein incorporated by reference in their entirety). Subtraction represents another method for reducing the population of certain sequences in the cDNA library (Swaroop, *et al.*, *Nucleic Acids Res.* 19:1954 (1991), herein incorporated by reference in its entirety).

ESTs can be sequenced by a number of methods. Two basic methods may be used for DNA sequencing, the chain termination method of Sanger *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 74: 5463-5467 (1977), herein incorporated by reference in its entirety and the chemical degradation method of Maxam and Gilbert, *Proc. Nat. Acad. Sci. (U.S.A.)* 74: 560-564 (1977), herein incorporated by reference in its entirety. Automation and advances in technology such as the replacement of radioisotopes with fluorescence-based sequencing have reduced the effort required to sequence DNA (Craxton, *Methods*, 2: 20-26 (1991); Ju *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 92: 4347-4351 (1995); Tabor and Richardson, *Proc. Natl. Acad. Sci. (U.S.A.)* 92: 6339-6343 (1995), all of which are herein incorporated by reference in their entirety). Automated sequencers are available from, for example, Pharmacia Biotech, Inc., Piscataway, New Jersey

(Pharmacia ALF), LI-COR, Inc., Lincoln, Nebraska (LI-COR 4,000) and Millipore, Bedford, Massachusetts (Millipore BaseStation).

In addition, advances in capillary gel electrophoresis have also reduced the effort required to sequence DNA and such advances provide a rapid high resolution approach for sequencing DNA samples (Swerdlow and Gesteland, *Nucleic Acids Res.* 18:1415-1419 (1990); Smith, *Nature* 349:812-813 (1991); Luckey *et al.*, *Methods Enzymol.* 218:154-172 (1993); Lu *et al.*, *J. Chromatog. A.* 680:497-501 (1994); Carson *et al.*, *Anal. Chem.* 65:3219-3226 (1993); Huang *et al.*, *Anal. Chem.* 64:2149-2154 (1992); Kheterpal *et al.*, *Electrophoresis* 17:1852-1859 (1996); Quesada and Zhang, *Electrophoresis* 17:1841-1851 (1996); Baba, *Yakugaku Zasshi* 117:265-281 (1997), all of which are herein incorporated by reference in their entirety).

ESTs longer than 150 base pairs have been found to be useful for similarity searches and mapping. (Adams, *et al.*, *Science* 252:1651-1656 (1991), herein incorporated by reference.) ESTs, which can represent copies of up to the full length transcript, may be partially or completely sequenced. Between 150-450 nucleotides of sequence information is usually generated as this is the length of sequence information that is routinely and reliably produced using single run sequence data. Typically, only single run sequence data is obtained from the cDNA library (Adams, *et al.*, *Science* 252:1651-1656 (1991), herein incorporated by reference in its entirety). Automated single run sequencing typically results in an approximately 2-3% error or base ambiguity rate. (Boguski, *et al.*, *Nature Genetics*, 4:332-333 (1993), herein incorporated by reference in its entirety).

EST databases have been constructed or partially constructed from, for example, *C. elegans* (McCombie, *et al.*, *Nature Genetics* 1:124-131 (1992), herein incorporated by reference in its entirety), human liver cell line HepG2 (Okubo, *et al.*, *Nature Genetics* 2:173-179 (1992),



herein incorporated by reference in its entirety), human brain RNA (Adams, *et al.*, *Science* 252:1651-1656 (1991); Adams, *et al.*, *Nature* 355:632-635 (1992), all of which are herein incorporated by reference in their entirety), *Arabidopsis*, (Newman, *et al.*, *Plant Physiol.* 106:1241-1255 (1994), herein incorporated by reference in its entirety); and rice (Kurata, *et al.*, *Nature Genetics* 8:365-372 (1994), herein incorporated by reference in its entirety).

### III. SEQUENCE COMPARISONS

A characteristic feature of a DNA sequence is that it can be compared with other known DNA sequences. Sequence comparisons can be undertaken by determining the similarity of the test or query sequence with sequences in publicly available or propriety databases ("similarity analysis") or by searching for certain motifs ("intrinsic sequence analysis") (e.g. *cis* elements) (Coulson, *Trends in Biotechnology* 12: 76-80 (1994); Birren, *et al.*, *Genome Analysis*, 1: 543-559 (1997), all of which are herein incorporated by reference in their entirety).

Similarity analysis includes database search and alignment. Examples of public databases include the DNA Database of Japan (DDBJ) (<http://www.ddbj.nig.ac.jp/>); Genebank (<http://www.ncbi.nlm.nih.gov/web/Genbank/Index.html>); and the European Molecular Biology Laboratory Nucleic Acid Sequence Database (EMBL) ([http://www.ebi.ac.uk/ebi\\_docs/embl\\_db.html](http://www.ebi.ac.uk/ebi_docs/embl_db.html)). A number of different search algorithms have been developed, one example of which are the suite of programs referred to as BLAST programs. There are five implementations of BLAST, three designed for nucleotide sequences queries (BLASTN, BLASTX, and TBLASTX) and two designed for protein sequence queries (BLASTP and TBLASTN) (Coulson, *Trends in Biotechnology* 12: 76-80 (1994); Birren *et al.*, *Genome Analysis* 1: 543-559 (1997), all of which are herein incorporated by reference in their entirety).

BLASTN takes a nucleotide sequence (the query sequence) and its reverse complement and searches them against a nucleotide sequence database. BLASTN was designed for speed, not maximum sensitivity, and may not find distantly related coding sequences. BLASTX takes a nucleotide sequence, translates it in three forward reading frames and three reverse complement  
 5 reading frames, and then compares the six translations against a protein sequence database. BLASTX is useful for sensitive analysis of preliminary (single-pass) sequence data and is tolerant of sequencing errors (Gish and States, *Nature Genetics* 3: 266-272 (1993), herein incorporated by reference in its entirety). BLASTN and BLASTX may be used in concert for analyzing EST data (Coulson, *Trends in Biotechnology* 12: 76-80 (1994); Birren *et al.*, *Genome*  
 10 *Analysis* 1: 543-559 (1997), all of which are herein incorporated by reference in their entirety).

Given a coding nucleotide sequence and the protein it encodes, it is often preferable to use the protein as the query sequence to search a database because of the greatly increased sensitivity to detect more subtle relationships. This is due to the larger alphabet of proteins (20 amino acids) compared with the alphabet of nucleic acid sequences (4 bases), where it is far  
 15 easier to obtain a match by chance. In addition, with nucleotide alignments, only a match (positive score) or a mismatch (negative score) is obtained, but with proteins, the presence of conservative amino acid substitutions can be taken into account. Here, a mismatch may yield a positive score if the non-identical residue has physical/chemical properties similar to the one it replaced. Various scoring matrices are used to supply the substitution scores of all possible  
 20 amino acid pairs. A general purpose scoring system is the BLOSUM62 matrix (Henikoff and Henikoff, *Proteins* 17: 49-61 (1993), herein incorporated by reference in its entirety), which is currently the default choice for BLAST programs. BLOSUM62 is tailored for alignments of moderately diverged sequences and thus may not yield the best results under all conditions

(Altschul, *J. Mol. Biol.* 36: 290-300 (1993), herein incorporated by reference in its entirety), uses a combination of three matrices to cover all contingencies. This may improve sensitivity, but at the expense of slower searches. In practice, a single BLOSUM62 matrix is often used but others (PAM40 and PAM250) may be attempted when additional analysis is necessary. Low PAM

5 matrices are directed at detecting very strong but localized sequence similarities, whereas high PAM matrices are directed at detecting long but weak alignments between very distantly related sequences.

Homologues in other organisms are available that can be used for comparative sequence analysis. Multiple alignments are performed to study similarities and differences in a group of related sequences. CLUSTAL W is a multiple sequence alignment package available that

10 performs progressive multiple sequence alignments based on the method of Feng and Doolittle, *J. Mol. Evol.* 25: 351-360 (1987), herein incorporated by reference in its entirety. Each pair of sequences is aligned and the distance between each pair is calculated; from this distance matrix, a guide tree is calculated, and all of the sequences are progressively aligned based on this tree. A

15 feature of the program is its sensitivity to the effect of gaps on the alignment; gap penalties are varied to encourage the insertion of gaps in probable loop regions instead of in the middle of structured regions. Users can specify gap penalties, choose between a number of scoring matrices, or supply their own scoring matrix for both the pairwise alignments and the multiple alignments. CLUSTAL W for UNIX and VMS systems is available at: <ftp.ebi.ac.uk>. Another

20 program is MACAW (Schuler *et al.*, *Proteins, Struct. Func. Genet.* 9: 180-190 (1991), herein incorporated by reference in its entirety), for which both Macintosh and Microsoft Windows versions are available. MACAW uses a graphical interface, provides a choice of several

alignment algorithms, and is available by anonymous ftp at: [ncbi.nlm.nih.gov](ftp://ncbi.nlm.nih.gov/directory/pub/macaw)  
(directory/pub/macaw).

Sequence motifs are derived from multiple alignments and can be used to examine individual sequences or an entire database for subtle patterns. With motifs, it is sometimes possible to detect distant relationships that may not be demonstrable based on comparisons of primary sequences alone. Currently, the largest collection of sequence motifs in the world is PROSITE (Bairoch and Bucher, *Nucleic Acid Research* 22: 3583-3589 (1994), herein incorporated by reference in its entirety). PROSITE may be accessed via either the ExPASy server on the World Wide Web or anonymous ftp site. Many commercial sequence analysis packages also provide search programs that use PROSITE data.

A resource for searching protein motifs is the BLOCKS E-mail server developed by S. Henikoff (Henikoff, *Trends Biochem Sci.* 18: 267-268 (1993); Henikoff and Henikoff, *Nucleic Acid Research* 19: 6565-6572 (1991); Henikoff and Henikoff, *Proteins* 17: 49-61 (1993), all of which are herein incorporated by reference in their entirety). BLOCKS searches a protein or nucleotide sequence against a database of protein motifs or "blocks." Blocks are defined as short, ungapped multiple alignments that represent highly conserved protein patterns. The blocks themselves are derived from entries in PROSITE as well as other sources. Either a protein or nucleotide query can be submitted to the BLOCKS server; if a nucleotide sequence is submitted, the sequence is translated in all six reading frames and motifs are sought in these conceptual translations. Once the search is completed, the server will return a ranked list of significant matches, along with an alignment of the query sequence to the matched BLOCKS entries.

Conserved protein domains can be represented by two-dimensional matrices, which measure either the frequency or probability of the occurrences of each amino acid residue and deletions or insertions in each position of the domain. This type of model, when used to search against protein databases, is sensitive and usually yields more accurate results than simple motif searches. Two popular implementations of this approach are profile searches (such as GCG program ProfileSearch) and Hidden Markov Models (HMMs) (Krough *et al.*, *J. Mol. Biol.* 235: 1501-1531 (1994); Eddy, *Current Opinion in Structural Biology* 6: 361-365 (1996), both of which are herein incorporated by reference in their entirety). In both cases, a large number of common protein domains have been converted into profiles, as present in the PROSITE library, or HMM models, as in the Pfam protein domain library (Sonnhammer *et al.*, *Proteins* 28: 405-420 (1997), herein incorporated by reference in its entirety). Pfam contains more than 500 HMM models for enzymes, transcription factors, signal transduction molecules, and structural proteins. Protein databases can be queried with these profiles or HMM models, which will identify proteins containing the domain of interest. For example, HMMSW or HMMFS, two programs in a public domain package called HMMER (Sonnhammer *et al.*, *Proteins* 28: 405-420 (1997), herein incorporated by reference in its entirety) can be used.

PROSITE and BLOCKS represent collected families of protein motifs. Thus, searching these databases entails submitting a single sequence to determine whether or not that sequence is similar to the members of an established family. Programs working in the opposite direction compare a collection of sequences with individual entries in the protein databases. An example of such a program is the Motif Search Tool, or MoST (Tatusov *et al.*, *Proc. Natl. Acad. Sci.* 91:12091-12095 (1994), herein incorporated by reference in its entirety.) On the basis of an aligned set of input sequences, a weight matrix is calculated by using one of four methods

(selected by the user); a weight matrix is simply a representation, position by position in an alignment, of how likely a particular amino acid will appear. The calculated weight matrix is then used to search the databases. To increase sensitivity, newly found sequences are added to the original data set, the weight matrix is recalculated, and the search is performed again. This procedure continues until no new sequences are found.

### SUMMARY OF THE INVENTION

The present invention provides a substantially purified nucleic acid molecule having a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674 or complements thereof.

The present invention also provides a substantially purified nucleic acid molecule, the nucleic acid molecule capable of specifically hybridizing to a second nucleic acid molecule having a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674 or complements thereof.

The present invention further provides a substantially purified protein, peptide, or fragment thereof encoded by a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674 or complements thereof.

The present invention also provides a substantially purified nucleic acid molecule encoding a *Cyanidium caldarium* protein homologue or fragment thereof, wherein the nucleic acid molecules comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674.

The present invention also provides a transformed cell having a nucleic acid molecule which comprises: (A) an exogenous promoter region which functions in the cell to cause the

production of a mRNA molecule; which is linked to (B) a structural nucleic acid molecule, wherein the structural nucleic acid molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO:1 through SEQ ID NO:5674 or complements thereof; which is linked to (C) a 3' non-translated sequence that functions in the cell to cause termination of transcription and addition of polyadenylated ribonucleotides to a 3' end of the mRNA molecule.

The present invention also provides a plant cell, a mammalian cell, a bacterial cell, an insect cell, a fungal cell and an algal cell transformed with a nucleic acid molecule of the present invention.

The present invention also provides a computer readable medium having recorded thereon one or more of the nucleotide sequences depicted in SEQ ID NO:1 through SEQ ID NO: 5674 or complements thereof.

## DETAILED DESCRIPTION OF THE INVENTION

### Agents of the invention:

#### (a) Nucleic Acid Molecules

Agents of the present invention include nucleic acid molecules and more specifically EST nucleic acid molecules or nucleic acid fragment molecules thereof. Fragment EST nucleic acid molecules may encode significant portion(s) of, or indeed most of, the EST nucleic acid molecule. Alternatively, the fragments may comprise smaller oligonucleotides (having from about 15 to about 250 nucleotide residues, and more preferably, about 15 to about 30 nucleotide residues).

In a preferred embodiment the nucleic acid molecules of the present invention are derived from a unicellular red alga and in an even more preferred embodiment the nucleic acid molecules of the present invention are derived from *Cyanidium caldarium*.

The term “substantially purified”, as used herein, refers to a molecule separated from substantially all other molecules normally associated with it in its native state. More preferably a substantially purified molecule is the predominant species present in a preparation. A substantially purified molecule may be greater than 60% free, preferably 75% free, more preferably 90% free, and most preferably 95% free from the other molecules (exclusive of solvent) present in the natural mixture. The term “substantially purified” is not intended to encompass molecules present in their native state.

The agents of the present invention will preferably be “biologically active” with respect to either a structural attribute, such as the capacity of a nucleic acid to hybridize to another nucleic acid molecule, or the ability of a protein to be bound by antibody (or to compete with another molecule for such binding). Alternatively, such an attribute may be catalytic, and thus involve the capacity of the agent to mediate a chemical reaction or response.

The agents of the present invention may also be recombinant. As used herein, the term recombinant means any agent (e.g. DNA, peptide etc.), that is, or results, however indirect, from human manipulation of a nucleic acid molecule.

It is understood that the agents of the present invention may be labeled with reagents that facilitate detection of the agent (e.g. fluorescent labels (Prober, *et al.*, *Science* 238:336-340 (1987); Albarella *et al.*, EP 144914, chemical labels (Sheldon *et al.*, U.S. Patent 4,582,789; Albarella *et al.*, U.S. Patent 4,563,417, modified bases (Miyoshi *et al.*, EP 119448, all of which are herein incorporated by reference in their entirety).



It is further understood, that the present invention provides bacterial, viral, microbial, and plant cells comprising the agents of the present invention.

EST nucleic acid molecules or fragment EST nucleic acid molecules or other nucleic acid molecules of the present invention are capable of specifically hybridizing to other nucleic acid molecules under certain circumstances. As used herein, two nucleic acid molecules are said to be capable of specifically hybridizing to one another if the two molecules are capable of forming an anti-parallel, double-stranded nucleic acid structure. A nucleic acid molecule is said to be the "complement" of another nucleic acid molecule if they exhibit complete complementarity. As used herein, molecules are said to exhibit "complete complementarity" when every nucleotide of one of the molecules is complementary to a nucleotide of the other. Two molecules are said to be "minimally complementary" if they can hybridize to one another with sufficient stability to permit them to remain annealed to one another under at least conventional "low-stringency" conditions. Similarly, the molecules are said to be "complementary" if they can hybridize to one another with sufficient stability to permit them to remain annealed to one another under conventional "high-stringency" conditions. Conventional stringency conditions are described by Sambrook, *et al.*, In: *Molecular Cloning, A Laboratory Manual, 2nd Edition*, Cold Spring Harbor Press, Cold Spring Harbor, New York (1989), and by Haymes, *et al.* In: *Nucleic Acid Hybridization, A Practical Approach*, IRL Press, Washington, DC (1985), herein incorporated by reference in its entirety. Departures from complete complementarity are therefore permissible, as long as such departures do not completely preclude the capacity of the molecules to form a double-stranded structure. Thus, in order for an EST nucleic acid molecule or fragment EST nucleic acid molecule to serve as a primer or probe it need only be sufficiently complementary in

sequence to be able to form a stable double-stranded structure under the particular solvent and salt concentrations employed.

Appropriate stringency conditions which promote DNA hybridization are, for example, 6.0 x sodium chloride/sodium citrate (SSC) at about 45°C, followed by a wash of 2.0 x SSC at 50°C, are known to those skilled in the art or can be found in *Current Protocols in Molecular Biology*, John Wiley & Sons, N.Y. (1989), 6.3.1-6.3.6. For example, the salt concentration in the wash step can be selected from a low stringency of about 2.0 x SSC at 50°C to a high stringency of about 0.2 x SSC at 50°C. In addition, the temperature in the wash step can be increased from low stringency conditions at room temperature, about 22°C, to high stringency conditions at about 65°C. Both temperature and salt may be varied, or either the temperature or the salt concentration may be held constant while the other variable is changed.

In a preferred embodiment, a nucleic acid of the present invention will specifically hybridize to one or more of the nucleic acid molecules set forth in SEQ ID NO: 1 through SEQ ID NO: 5674 or complements thereof under moderately stringent conditions, for example at about 2.0 x SSC and about 65°C.

In a particularly preferred embodiment, a nucleic acid of the present invention will include those nucleic acid molecules that specifically hybridize to one or more of the nucleic acid molecules set forth in SEQ ID NO:1 through SEQ ID NO: 5674 or complements thereof under high stringency conditions.

In one aspect of the present invention, the nucleic acid molecules of the present invention have one or more of the nucleic acid sequences set forth in SEQ ID NO: 1 through to SEQ ID NO:5674 or complements thereof. In another aspect of the present invention, one or more of the nucleic acid molecules of the present invention share between 100% and 90% sequence identity

with one or more of the nucleic acid sequences set forth in SEQ ID NO: 1 through to SEQ ID NO:5674 or complements thereof. In a further aspect of the present invention, one or more of the nucleic acid molecules of the present invention share between 100% and 95% sequence identity with one or more of the nucleic acid sequences set forth in SEQ ID NO: 1 through to SEQ ID NO:5674 or complements thereof. In a more preferred aspect of the present invention, one or more of the nucleic acid molecules of the present invention share between 100% and 98% sequence identity with one or more of the nucleic acid sequences set forth in SEQ ID NO: 1 through to SEQ ID NO:5674 or complements thereof. In an even more preferred aspect of the present invention, one or more of the nucleic acid molecules of the present invention share between 100% and 99% sequence identity with one or more of the sequences set forth in SEQ ID NO: 1 through to SEQ ID NO:5674 or complements thereof. In a further, even more preferred aspect of the present invention, one or more of the nucleic acid molecules of the present invention exhibit 100% sequence identity with one or more nucleic acid molecules present within the cDNA library LIB190, herein designated (Monsanto Company, St. Louis, Missouri, United States of America).

The degeneracy of the genetic code, which allows different nucleic acid sequences to code for the same protein or peptide, is known in the literature. (U.S. Patent No. 4,757,006, herein incorporated by reference in its entirety). As used herein a nucleic acid molecule is degenerate of another nucleic acid molecule when the nucleic acid molecules encode for the same amino acid sequences but comprise different nucleotide sequences. An aspect of the present invention is that the nucleic acid molecules of the present invention include nucleic acid molecules that are degenerate of those set forth in SEQ ID NO: 1 through to SEQ ID NO:5674 or complements thereof.

**(b) Protein and Peptide Molecules**

A class of agents comprises one or more of the protein or peptide molecules encoded by SEQ ID NO: 1 through SEQ ID NO:5674 or one or more of the protein or fragment thereof or peptide molecules encoded by other nucleic acid agents of the present invention. Protein and peptide molecules can be identified using known protein or peptide molecules as a target sequence or target motif in the BLAST programs of the present invention. In a preferred embodiment the protein or fragment molecules of the present invention are derived from *Cyanidium caldarium*. As used herein, the term "protein molecule" or "peptide molecule" includes any molecule that comprises five or more amino acids. It is well known in the art that proteins may undergo modification, including post-translational modifications, such as, but not limited to, disulfide bond formation, glycosylation, phosphorylation, or oligomerization. Thus, as used herein, the term "protein molecule" or "peptide molecule" includes any protein molecule that is modified by any biological or non-biological process. The terms "amino acid" and "amino acids" refer to all naturally occurring L-amino acids. This definition is meant to include norleucine, ornithine, homocysteine, and homoserine.

One or more of the protein or fragment of peptide molecules may be produced via chemical synthesis, or more preferably, by expressing in a suitable bacterial or eukaryotic host. Suitable methods for expression are described by Sambrook, *et al.*, (In: *Molecular Cloning, A Laboratory Manual, 2nd Edition, Cold Spring Harbor Press, Cold Spring Harbor, New York* (1989), herein incorporated by reference in its entirety), or similar texts.

A "protein fragment" is a peptide or polypeptide molecule whose amino acid sequence comprises a subset of the amino acid sequence of that protein. A protein or fragment thereof that comprises one or more additional peptide regions not derived from that protein is a "fusion"

protein. Such molecules may be derivatized to contain carbohydrate or other moieties (such as keyhole limpet hemocyanin, etc.). Fusion protein or peptide molecule of the present invention are preferably produced via recombinant means.

Another class of agents comprise protein or peptide molecules encoded by SEQ ID NO: 1 through SEQ ID NO:5674 or, fragments or fusions thereof in which non-essential, or not relevant, amino acid residues have been added, replaced, or deleted. An example of such a homologue is the homologue protein of a plant, including but not limited to soybean, alfalfa, *Arabidopsis*, barley, cotton, corn, oat, oilseed rape, rice, canola, maize, ornamentals, sugarcane, sugarbeet, tomato, potato, wheat, and turf grasses. Such a homologue can be obtained by any of a variety of methods. Most preferably, as indicated above, one or more of the disclosed sequences (e.g., SEQ ID NO: 1 through SEQ ID NO:5674 or complements thereof) will be used to define a pair of primers that may be used to isolate the homologue-encoding nucleic acid molecules from any desired species. Such molecules can be expressed to yield homologues by recombinant means.

In a preferred embodiment of the present invention, a *Cyanidium caldarium* protein or fragment thereof of the present invention is a homologue of another algal protein. In another preferred embodiment of the present invention, a *Cyanidium caldarium* protein or fragment thereof of the present invention is a homologue of a fungal protein. In another preferred embodiment of the present invention, a *Cyanidium caldarium* protein or fragment thereof of the present invention is a homologue of mammalian protein. In another preferred embodiment of the present invention, a *Cyanidium caldarium* protein or fragment thereof of the present invention is a homologue of a bacterial protein.

In a preferred embodiment of the present invention, the nucleic molecule of the present invention encodes a *Cyanidium caldarium* protein or fragment thereof where a *Cyanidium caldarium* protein or fragment thereof exhibits a BLAST probability score of greater than 1E-12, preferably a BLAST probability score of between about 1E-30 and about 1E-12, even more preferably a BLAST probability score of greater than 1E-30 with its homologue.

In another preferred embodiment of the present invention, the nucleic acid molecule encoding a *Cyanidium caldarium* protein or fragment thereof exhibits a % identity with its homologue of between about 25% and about 40%, more preferably of between about 40 and about 70%, even more preferably of between about 70% and about 90% and even more preferably between about 90% and 99%. In another preferred embodiment, of the present invention, a *Cyanidium caldarium* protein or fragment thereof exhibits a % identity with its homologue of 100%.

In a preferred embodiment of the present invention, the nucleic molecule of the present invention encodes a *Cyanidium caldarium* protein or fragment thereof where the *Cyanidium caldarium* protein exhibits a BLAST score of greater than 120, preferably a BLAST score of between about 1450 and about 120, even more preferably a BLAST score of greater than 1450 with its homologue.

The degeneracy of the genetic code, which allows different nucleic acid sequences to code for the same protein or peptide, is known in the literature. (U.S. Patent No. 4,757,006, herein incorporated by reference in its entirety). As used herein a nucleic acid molecule is degenerate of another nucleic acid molecule when the nucleic acid molecules encode for the same amino acid sequences but comprise different nucleotide sequences.

In an aspect of the present invention, one or more of the nucleic acid molecules of the present invention differ in nucleic acid sequence from those encoding a *Cyanidium caldarium* protein or fragment thereof in SEQ ID NO: 1 through SEQ ID NO: 5674 due to the degeneracy in the genetic code in that they encode the same protein but differ in nucleic acid sequence.

5 In another further aspect of the present invention, nucleic acid molecules of the present invention can comprise sequences, which differ from those encoding a protein or fragment thereof in SEQ ID NO: 1 through SEQ ID NO: 5674 due to fact that the different nucleic acid sequence encodes a protein having one or more conservative amino acid changes. It is understood that codons capable of coding for such conservative amino acid substitutions are  
10 known in the art.

It is well known in the art that one or more amino acids in a native sequence can be substituted with another amino acid(s), the charge and polarity of which are similar to that of the native amino acid, *i.e.*, a conservative amino acid substitution, resulting in a silent change. Conserved substitutes for an amino acid within the native polypeptide sequence can be selected  
15 from other members of the class to which the naturally occurring amino acid belongs. Amino acids can be divided into the following four groups: (1) acidic amino acids, (2) basic amino acids, (3) neutral polar amino acids, and (4) neutral nonpolar amino acids. Representative amino acids within these various groups include, but are not limited to, (1) acidic (negatively charged) amino acids such as aspartic acid and glutamic acid; (2) basic (positively charged) amino acids  
20 such as arginine, histidine, and lysine; (3) neutral polar amino acids such as glycine, serine, threonine, cysteine, cystine, tyrosine, asparagine, and glutamine; and (4) neutral nonpolar (hydrophobic) amino acids such as alanine, leucine, isoleucine, valine, proline, phenylalanine, tryptophan, and methionine.

Conservative amino acid changes within the native polypeptides sequence can be made by substituting one amino acid within one of these groups with another amino acid within the same group. Biologically functional equivalents of the proteins or fragments thereof of the present invention can have 10 or fewer conservative amino acid changes, more preferably seven  
5 or fewer conservative amino acid changes, and most preferably five or fewer conservative amino acid changes. The encoding nucleotide sequence will thus have corresponding base substitutions, permitting it to encode biologically functional equivalent forms of the proteins or fragments of the present invention.

It is understood that certain amino acids may be substituted for other amino acids in a  
10 protein structure without appreciable loss of interactive binding capacity with structures such as, for example, antigen-binding regions of antibodies or binding sites on substrate molecules. Because it is the interactive capacity and nature of a protein that defines that protein's biological functional activity, certain amino acid sequence substitutions can be made in a protein sequence and, of course, its underlying DNA coding sequence and, nevertheless, obtain a protein with like  
15 properties. It is thus contemplated by the inventors that various changes may be made in the peptide sequences of the proteins or fragments of the present invention, or corresponding DNA sequences that encode said peptides, without appreciable loss of their biological utility or activity. It is understood that codons capable of coding for such amino acid changes are known in the art.

20 In making such changes, the hydropathic index of amino acids may be considered. The importance of the hydropathic amino acid index in conferring interactive biological function on a protein is generally understood in the art (Kyte and Doolittle, *J. Mol. Biol.* 157, 105-132 (1982), herein incorporated by reference in its entirety). It is accepted that the relative hydropathic



character of the amino acid contributes to the secondary structure of the resultant protein, which in turn defines the interaction of the protein with other molecules, for example, enzymes, substrates, receptors, DNA, antibodies, antigens, and the like.

Each amino acid has been assigned a hydropathic index on the basis of its hydrophobicity and charge characteristics (Kyte and Doolittle, 1982); these are isoleucine (+4.5), valine (+4.2), leucine (+3.8), phenylalanine (+2.8), cysteine/cystine (+2.5), methionine (+1.9), alanine (+1.8), glycine (-0.4), threonine (-0.7), serine (-0.8), tryptophan (-0.9), tyrosine (-1.3), proline (-1.6), histidine (-3.2), glutamate (-3.5), glutamine (-3.5), aspartate (-3.5), asparagine (-3.5), lysine (-3.9), and arginine (-4.5).

In making such changes, the substitution of amino acids whose hydropathic indices are within  $\pm 2$  is preferred, those which are within  $\pm 1$  are particularly preferred, and those within  $\pm 0.5$  are even more particularly preferred.

It is also understood in the art that the substitution of like amino acids can be made effectively on the basis of hydrophilicity. U.S. Patent 4,554,101, incorporated herein by reference in its entirety, states that the greatest local average hydrophilicity of a protein, as governed by the hydrophilicity of its adjacent amino acids, correlates with a biological property of the protein.

As detailed in U.S. Patent 4,554,101, the following hydrophilicity values have been assigned to amino acid residues: arginine (+3.0), lysine (+3.0), aspartate (+3.0 $\pm$ 1), glutamate (+3.0 $\pm$ 1), serine (+0.3), asparagine (+0.2), glutamine (+0.2), glycine (0), threonine (-0.4), proline (-0.5 $\pm$ 1), alanine (-0.5), histidine (-0.5), cysteine (-1.0), methionine (-1.3), valine (-1.5), leucine (-1.8), isoleucine (-1.8), tyrosine (-2.3), phenylalanine (-2.5), and tryptophan (-3.4).

In making such changes, the substitution of amino acids whose hydrophilicity values are within  $\pm 2$  is preferred, those which are within  $\pm 1$  are particularly preferred, and those within  $\pm 0.5$  are even more particularly preferred.

In a further aspect of the present invention, one or more of the nucleic acid molecules of the present invention differ in nucleic acid sequence from those encoding a *Cyanidium caldarium* protein or fragment thereof set forth in SEQ ID NO: 1 through SEQ ID NO: 5674 or fragment thereof due to the fact that one or more codons encoding an amino acid has been substituted for a codon that encodes a nonessential substitution of the amino acid originally encoded.

### (c) Antibodies

One aspect of the present invention concerns antibodies, single-chain antigen binding molecules, or other proteins that specifically bind to one or more of the protein or peptide molecules of the present invention and their homologues, fusions or fragments. Such antibodies may be used to quantitatively or qualitatively detect the protein or peptide molecules of the present invention. As used herein, an antibody or peptide is said to "specifically bind" to a protein or peptide molecule of the present invention if such binding is not competitively inhibited by the presence of non-related molecules. In a preferred embodiment the antibodies of the present invention bind to proteins of the present invention. In a more preferred embodiment the antibodies of the present invention bind to proteins derived from *Cyanidium caldarium*.

Nucleic acid molecules that encode all or part of the protein of the present invention can be expressed, via recombinant means, to yield protein or peptides that can in turn be used to elicit antibodies that are capable of binding the expressed protein or peptide. Such antibodies may be used in immunoassays for that protein. Such protein-encoding molecules, or their fragments may

be a "fusion" molecule (i.e., a part of a larger nucleic acid molecule) such that, upon expression, a fusion protein is produced. It is understood that any of the nucleic acid molecules of the present invention may be expressed, via recombinant means, to yield proteins or peptides encoded by these nucleic acid molecules.

5       The antibodies that specifically bind proteins and protein fragments of the present invention may be polyclonal or monoclonal, and may comprise intact immunoglobulins, or antigen binding portions of immunoglobulins (such as (F(ab'), F(ab')<sub>2</sub>) fragments, or single-chain immunoglobulins producible, for example, via recombinant means). It is understood that practitioners are familiar with the standard resource materials which describe specific conditions and procedures for the construction, manipulation and isolation of antibodies (see, for example, 10 Harlow and Lane, In *Antibodies: A Laboratory Manual*, Cold Spring Harbor Press, Cold Spring Harbor, New York (1988), herein incorporated by reference in its entirety).

Murine monoclonal antibodies are particularly preferred. BALB/c mice are preferred for this purpose, however, equivalent strains may also be used. The animals are preferably 15 immunized with approximately 25 µg of purified protein (or fragment thereof) that has been emulsified a suitable adjuvant (such as TiterMax adjuvant (Vaxcel, Norcross, GA)).

Immunization is preferably conducted at two intramuscular sites, one intraperitoneal site, and one subcutaneous site at the base of the tail. An additional i.v. injection of approximately 25 µg of antigen is preferably given in normal saline three weeks later. After approximately 11 days 20 following the second injection, the mice may be bled and the blood screened for the presence of anti-protein or peptide antibodies. Preferably, a direct binding Enzyme-Linked Immunoassay (ELISA) is employed for this purpose.

More preferably, the mouse having the highest antibody titer is given a third i.v. injection of approximately 25 µg of the same protein or fragment. The splenic leukocytes from this animal may be recovered 3 days later, and are then permitted to fuse, most preferably, using polyethylene glycol, with cells of a suitable myeloma cell line (such as, for example, the

5 P3X63Ag8.653 myeloma cell line). Hybridoma cells are selected by culturing the cells under "HAT" (hypoxanthine-aminopterin-thymine) selection for about one week. The resulting clones may then be screened for their capacity to produce monoclonal antibodies ("mAbs), preferably by direct ELISA.

In one embodiment, anti-protein or peptide monoclonal antibodies are isolated using a

10 fusion of a protein, protein fragment, or peptide of the present invention, or conjugate of a protein, protein fragment, or peptide of the present invention, as immunogens. Thus, for example, a group of mice can be immunized using a fusion protein emulsified in Freund's complete adjuvant (e.g. approximately 50 µg of antigen per immunization). At three week intervals, an identical amount of antigen is emulsified in Freund's incomplete adjuvant and used

15 to immunize the animals. Ten days following the third immunization, serum samples are taken and evaluated for the presence of antibody. If antibody titers are too low, a fourth booster can be employed. Polysera capable of binding the protein or peptide can also be obtained using this method.

In a preferred procedure for obtaining monoclonal antibodies, the spleens of the above-

20 described immunized mice are removed, disrupted, and immune splenocytes are isolated over a ficoll gradient. The isolated splenocytes are fused, using polyethylene glycol with BALB/c-derived HGPRT (hypoxanthine guanine phosphoribosyl transferase) deficient P3x63xAg8.653 plasmacytoma cells. The fused cells are plated into 96-well microtiter plates and screened for

hybridoma fusion cells by their capacity to grow in culture medium supplemented with hypoxanthine, aminopterin and thymidine for approximately 2-3 weeks.

Hybridoma cells that arise from such incubation are preferably screened for their capacity to produce an immunoglobulin that binds to a protein of interest. An indirect ELISA may be used for this purpose. In brief, the supernatants of hybridomas are incubated in microtiter wells that contain immobilized protein. After washing, the titer of bound immunoglobulin can be determined using, for example, a goat anti-mouse antibody conjugated to horseradish peroxidase. After additional washing, the amount of immobilized enzyme is determined (for example through the use of a chromogenic substrate). Such screening is performed as quickly as possible after the identification of the hybridoma in order to ensure that a desired clone is not overgrown by non-secreting neighbors. Desirably, the fusion plates are screened several times since the rates of hybridoma growth vary. In a preferred sub-embodiment, a different antigenic form of immunogen may be used to screen the hybridoma. Thus, for example, the splenocytes may be immunized with one immunogen, but the resulting hybridomas can be screened using a different immunogen. It is understood that any of the protein or peptide molecules of the present invention may be used to raise antibodies.

As discussed below, such antibody molecules or their fragments may be used for diagnostic purposes. Where the antibodies are intended for diagnostic purposes, it may be desirable to derivatize them, for example with a ligand group (such as biotin) or a detectable marker group (such as a fluorescent group, a radioisotope or an enzyme).

The ability to produce antibodies that bind the protein or peptide molecules of the present invention permits the identification of mimetic compounds of those molecules. A "mimetic

compound" is a compound that is not that compound, or a fragment of that compound, but which nonetheless exhibits an ability to specifically bind to antibodies directed against that compound.

It is understood that any of the agents of the present invention can be substantially purified and/or be biologically active and/or recombinant.

5           **(d)     Algal Constructs and Algal Transformants**

The present invention also relates to an algal recombinant vector comprising exogenous genetic material. The present invention also relates to an algal cell comprising an algal recombinant vector. The present invention also relates to methods for obtaining a recombinant algal host cell comprising introducing into an algal host cell exogenous genetic material.

10           Exogenous genetic material is any genetic material, whether naturally occurring or otherwise, from any source that is capable of being inserted into any organism. Exogenous genetic material may be transferred into an algal cell. In a preferred embodiment the exogenous genetic material includes a nucleic acid molecule having a sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674 or complements thereof.

15           The algal recombinant vector may be any vector which can be conveniently subjected to recombinant DNA procedures. The choice of a vector will typically depend on the compatibility of the vector with the algal host cell into which the vector is to be introduced. The vector may be a linear or a closed circular plasmid. The vector system may be a single vector or plasmid or two or more vectors or plasmids which together contain the total DNA to be introduced into the  
20           genome of the algal host.

The algal vector may be an autonomously replicating vector, *i.e.*, a vector which exists as an extrachromosomal entity, the replication of which is independent of chromosomal replication, *e.g.*, a plasmid, an extrachromosomal element, a minichromosome, or an artificial chromosome.

The vector may contain any means for assuring self-replication. Alternatively, the vector may be one which, when introduced into the algal cell, is integrated into the genome and replicated together with the chromosome(s) into which it has been integrated. For integration, the vector may rely on the nucleic acid sequence of the vector for stable integration of the vector into the genome by homologous or nonhomologous recombination. Alternatively, the vector may contain additional nucleic acid sequences for directing integration by homologous recombination into the genome of the algal host. The additional nucleic acid sequences enable the vector to be integrated into the host cell genome at a precise location(s) in the chromosome(s). To increase the likelihood of integration at a precise location, there should be preferably two nucleic acid sequences which individually contain a sufficient number of nucleic acids, preferably 400 bp to 1500 bp, more preferably 800 bp to 1000 bp, which are highly homologous with the corresponding target sequence to enhance the probability of homologous recombination. These nucleic acid sequences may be any sequence that is homologous with a target sequence in the genome of the algal host cell, and, furthermore, may be non-encoding or encoding sequences.

The vectors of the present invention preferably contain one or more selectable markers which permit easy selection of transformed cells. A selectable marker is a gene, the product of which confers upon an algal cell resistance to a compound to which the algal would otherwise be sensitive. The compound can be selected from the group consisting of antibiotics, fungicides, herbicides, and heavy metals. The selectable marker may be selected from any known or subsequently identified selectable markers, including markers derived from algal, fungal, and bacterial sources. Preferred selectable markers can be selected from the group including, but not limited to, *amdS* (acetamidase), *argB* (ornithine carbamoyltransferase), *bar* (phosphinothricin acetyltransferase), *ble* (bleomycin binding protein), *cat* (chloramphenicol acetyltransferase),

hygB (hygromycin B phosphotransferase), *nat* (nourseothricin acetyltransferase), *niaD* (nitrate reductase), *neo* (neomycin phosphotransferase), *pac* (puromycin acetyltransferase), *pyrG* (orotidine-5'-phosphate decarboxylase), *sat* (streptothricin acetyltransferase), *sC* (sulfate adenylyltransferase), *trpC* (anthranilate synthase), and glyphosate resistant EPSPS genes.

- 5 Furthermore, selection may be accomplished by co-transformation, *e.g.*, as described in WO 91/17243, herein incorporated by reference in its entirety.

A nucleic acid sequence of the present invention may be operably linked to a suitable promoter sequence. The promoter sequence is a nucleic acid sequence which is recognized by the algal host cell for expression of the nucleic acid sequence. The promoter sequence contains  
10 transcription and translation control sequences which mediate the expression of the protein or fragment thereof.

A promoter may be any nucleic acid sequence which shows transcriptional activity in the algal host cell of choice and may be obtained from genes encoding polypeptides either homologous or heterologous to the host cell. Examples of suitable promoters for directing the  
15 transcription of a nucleic acid construct of the invention in an algal host are light harvesting protein promoters obtained from photosynthetic organisms, *Chlorella* virus methyltransferase promoters, CaMV 35 S promoter, PL promoter from bacteriophage  $\lambda$ , nopaline synthase promoter from the Ti plasmid of *Agrobacterium tumefaciens*, and bacterial *trp* promoter.

- 20 A protein or fragment thereof encoding nucleic acid molecule of the present invention may also be operably linked to a terminator sequence at its 3' terminus. The terminator sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be



obtained from foreign sources. Any terminator which is functional in the algal host cell of choice may be used in the present invention.

A protein or fragment thereof encoding nucleic acid molecule of the present invention may also be operably linked to a suitable leader sequence. A leader sequence is a nontranslated  
5 region of a mRNA which is important for translation by the algal host. The leader sequence is operably linked to the 5' terminus of the nucleic acid sequence encoding the protein or fragment thereof. The leader sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any leader sequence which is functional in the algal host cell of choice may be used in the present invention.

10 A polyadenylation sequence may also be operably linked to the 3' terminus of the nucleic acid sequence of the present invention. The polyadenylation sequence is a sequence which when transcribed is recognized by the algal host to add polyadenosine residues to transcribed mRNA. The polyadenylation sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any polyadenylation  
15 sequence which is functional in the algal host of choice may be used in the present invention.

To avoid the necessity of disrupting the cell to obtain the protein or fragment thereof, and to minimize the amount of possible degradation of the expressed protein or fragment thereof within the cell, it is preferred that expression of the protein or fragment thereof gives rise to a product secreted outside the cell. To this end, the protein or fragment thereof of the present  
20 invention may be linked to a signal peptide linked to the amino terminus of the protein or fragment thereof. A signal peptide is an amino acid sequence which permits the secretion of the protein or fragment thereof from the algal host into the culture medium. The signal peptide may be native to the protein or fragment thereof of the invention or may be obtained from foreign

sources. The 5' end of the coding sequence of the nucleic acid sequence of the present invention may inherently contain a signal peptide coding region naturally linked in translation reading frame with the segment of the coding region which encodes the secreted protein or fragment thereof. Alternatively, the 5' end of the coding sequence may contain a signal peptide coding region which is foreign to that portion of the coding sequence which encodes the secreted protein or fragment thereof. The foreign signal peptide may be required where the coding sequence does not normally contain a signal peptide coding region. Alternatively, the foreign signal peptide may simply replace the natural signal peptide to obtain enhanced secretion of the desired protein or fragment thereof. Any signal peptide capable of permitting secretion of the protein or fragment thereof in an algal host of choice may be used in the present invention.

A protein or fragment thereof encoding nucleic acid molecule of the present invention may also be linked to a propeptide coding region. A propeptide is an amino acid sequence found at the amino terminus of a proprotein or proenzyme. Cleavage of the propeptide from the proprotein yields a mature biochemically active protein. The resulting polypeptide is known as a propolypeptide or proenzyme (or a zymogen in some cases). Propolypeptides are generally inactive and can be converted to mature active polypeptides by catalytic or autocatalytic cleavage of the propeptide from the propolypeptide or proenzyme. The propeptide coding region may be native to the protein or fragment thereof or may be obtained from foreign sources. The foreign propeptide coding region may be obtained from the *Saccharomyces cerevisiae* alpha-factor gene or *Myceliophthora thermophila* laccase gene (WO 95/33836, herein incorporated by reference in its entirety).

The procedures used to ligate the elements described above to construct the recombinant expression vector of the present invention are well known to one skilled in the art (see, for

example, Sambrook, 2nd ed., *et al.*, *Molecular Cloning, A Laboratory Manual* Cold Spring Harbor, N.Y., (1989), herein incorporated by reference in its entirety).

The present invention also relates to recombinant algal host cells produced by the methods of the present invention which are advantageously used with the recombinant vector of the present invention. The cell is preferably transformed with a vector comprising a nucleic acid sequence of the invention followed by integration of the vector into the host chromosome. The choice of algal host cells will to a large extent depend upon the gene encoding the protein or fragment thereof and its source.

Algal cells may be transformed by a variety of known techniques, including but not limited to, microprojectile bombardment, protoplast fusion, electroporation, microinjection, and vigorous agitation in the presence of glass beads. Suitable procedures for transformation of green algal host cells are described in EP 108 580, herein incorporated by reference in its entirety. A suitable method of transforming *Chlorella* species is described by Jarvis and Brown, *Curr. Genet.* 19: 317-321 (1991), herein incorporated by reference in its entirety. A suitable method of transforming cells of diatom *Phaeodactylum tricornutum* species is described in WO 97/39106, herein incorporated by reference in its entirety. Chlorophyll C-containing algae may be transformed using the procedures described in US 5,661,017, herein incorporated by reference in its entirety.

The expressed protein or fragment thereof may be detected using methods known in the art that are specific for the particular protein or fragment. These detection methods may include the use of specific antibodies, formation of an enzyme product, or disappearance of an enzyme substrate. For example, if the protein or fragment thereof has enzymatic activity, an enzyme assay may be used. Alternatively, if polyclonal or monoclonal antibodies specific to the protein

or fragment thereof are available, immunoassays may be employed using the antibodies to the protein or fragment thereof. The techniques of enzyme assay and immunoassay are well known to those skilled in the art.

The resulting protein or fragment thereof may be recovered by methods known in the arts. For example, the protein or fragment thereof may be recovered from the nutrient medium by conventional procedures including, but not limited to, centrifugation, filtration, extraction, spray-drying, evaporation, or precipitation. The recovered protein or fragment thereof may then be further purified by a variety of chromatographic procedures, e.g., ion exchange chromatography, gel filtration chromatography, affinity chromatography, or the like.

#### (e) Plant Constructs and Plant Transformants

Nucleic acid molecules of the present invention may be used in plant transformation or transfection. Exogenous genetic material may be transferred into a plant cell and the plant cell regenerated into a whole, fertile or sterile plant. Exogenous genetic material is any genetic material, whether naturally occurring or otherwise, from any source that is capable of being inserted into any organism. Such genetic material may be transferred into either monocotyledons and dicotyledons including but not limited to the plants, alfalfa, *Arabidopsis*, barley, *Brassica*, broccoli, cabbage, citrus, cotton, garlic, oat, oilseed rape, onion, canola, flax, maize, an ornamental plant, pea, peanut, pepper, potato, rice, rye, sorghum, soybean, strawberry, sugarcane, sugarbeet, tomato, wheat, poplar, pine, fir, eucalyptus, apple, lettuce, lentils, grape, banana, tea, turf grasses, sunflower, oil palm, *Phaseolus* etc. Particularly preferred plants to use for the transformation or transfection would include *Arabidopsis*, barley, cotton, oat, oilseed rape, rice, maize, soybean, canola, ornamentals, sugarcane, sugarbeet, tomato, potato, wheat and turf grasses (*See specifically, Chistou, Particle Bombardment for Genetic Engineering of Plants,*

Biotechnology Intelligence Unit, Academic Press, San Diego, CA (1996), herein incorporated by reference in its entirety).

Transfer of a nucleic acid that encodes for a protein can result in overexpression of that protein in a transformed cell or transgenic plant. One or more of the proteins or fragments thereof encoded by nucleic acid molecules of the present invention may be overexpressed in a transformed cell or transformed plant. Such overexpression may be the result of transient or stable transfer of the exogenous material. In a preferred embodiment of the present invention, one or more of the *Cyanidium caldarium* homologue proteins or fragments is overexpressed in a transformed cell or transgenic plant.

Exogenous genetic material may be transferred into a plant cell by the use of a DNA vector or construct designed for such a purpose. Vectors have been engineered for transformation of large DNA inserts into plant genomes. Binary bacterial artificial chromosomes have been designed to replicate in both *E. coli* and *A. tumefaciens* and have all of the features required for transferring large inserts of DNA into plant chromosomes (Choi and Wing, <http://genome.clemson.edu/protocols2-nj.html> July, 1998). ApBACwch system has been developed to achieve site-directed integration of DNA into the genome. A 150 kb cotton BAC DNA is reported to have been transferred into a specific *lox* site in tobacco by biolistic bombardment and *Cre-lox* site specific recombination.

A construct or vector may also include a plant promoter to express the protein or protein fragment of choice. A number of promoters which are active in plant cells have been described in the literature. These include the nopaline synthase (NOS) promoter (Ebert *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 84: 5745-5749 (1987), herein incorporated by reference in its entirety), the octopine synthase (OCS) promoter (which are carried on tumor-inducing plasmids of

*Agrobacterium tumefaciens*), the caulimovirus promoters such as the cauliflower mosaic virus (CaMV) 19S promoter (Lawton *et al.*, *Plant Mol. Biol.* 9:3 15-324 (1987), herein incorporated by reference in its entirety) and the CAMV 35S promoter (Odell *et al.*, *Nature* 313: 810-812 (1985), herein incorporated by reference in its entirety), the figwort mosaic virus 35S-promoter, the

5 light-inducible promoter from the small subunit of ribulose-1,5-bis-phosphate carboxylase (ssRUBISCO), the Adh promoter (Walker *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 84: 6624-6628 (1987), herein incorporated by reference in its entirety), the sucrose synthase promoter (Yang *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 87: 4144-4148 (1990), herein incorporated by reference in its entirety), the R gene complex promoter (Chandler *et al.*, *The Plant Cell* 1: 1175-1183 (1989),

10 herein incorporated by reference in its entirety), and the chlorophyll a/b binding protein gene promoter, etc. These promoters have been used to create DNA constructs which have been expressed in plants; *see, e.g.*, PCT publication WO 84/02913, herein incorporated by reference in its entirety.

Promoters which are known or are found to cause transcription of DNA in plant cells can

15 be used in the present invention. Such promoters may be obtained from a variety of sources such as plants and plant viruses. It is preferred that the particular promoter selected should be capable of causing sufficient expression to result in the production of an effective amount of protein to cause the desired phenotype. In addition to promoters which are known to cause transcription of DNA in plant cells, other promoters may be identified for use in the current invention by

20 screening a plant cDNA library for genes which are selectively or preferably expressed in the target tissues or cells.

For the purpose of expression in source tissues of the plant, such as the leaf, seed, root or stem, it is preferred that the promoters utilized in the present invention have relatively high

expression in these specific tissues. For this purpose, one may choose from a number of promoters for genes with tissue- or cell-specific or -enhanced expression. Examples of such promoters reported in the literature include the chloroplast glutamine synthetase GS2 promoter from pea (Edwards *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 87: 3459-3463 (1990), herein

5 incorporated by reference in its entirety), the chloroplast fructose-1,6-biphosphatase (FBPase) promoter from wheat (Lloyd *et al.*, *Mol. Gen. Genet.* 225: 209-216 (1991), herein incorporated by reference in its entirety), the nuclear photosynthetic ST-LS1 promoter from potato (Stockhaus *et al.*, *EMBO J.* 8: 2445-2451 (1989), herein incorporated by reference in its entirety), the phenylalanine ammonia-lyase (PAL) promoter and the chalcone synthase (CHS) promoter from

10 *Arabidopsis thaliana*. Also reported to be active in photosynthetically active tissues are the ribulose-1,5-bisphosphate carboxylase (RbcS) promoter from eastern larch (*Larix laricina*), the promoter for the *cab* gene, *cab6*, from pine (Yamamoto *et al.*, *Plant Cell Physiol.* 35: 773-778 (1994), herein incorporated by reference in its entirety), the promoter for the Cab-1 gene from wheat (Fejes *et al.*, *Plant Mol. Biol.* 15: 921-932 (1990), herein incorporated by reference in its

15 entirety), the promoter for the CAB-1 gene from spinach (Lubberstedt *et al.*, *Plant Physiol.* 104: 97-1006 (1994), herein incorporated by reference in its entirety), the promoter for the *cab1R* gene from rice (Luan *et al.*, *Plant Cell.* 4: 971-981 (1992), herein incorporated by reference in its entirety), the pyruvate, orthophosphate dikinase (PPDK) promoter from *Zea mays* (Matsuoka *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 90: 9586-9590 (1993), herein incorporated by reference in its

20 entirety), the promoter for the tobacco *Lhcb1\*2* gene (Cerdan *et al.*, *Plant Mol. Biol.* 33: 245-255. (1997), herein incorporated by reference in its entirety), the *Arabidopsis thaliana* SUC2 sucrose-H<sup>+</sup> symporter promoter (Truernit *et al.*, *Planta.* 196: 564-570 (1995), herein incorporated by reference in its entirety), and the promoter for the thylacoid membrane proteins

from spinach (*psaD*, *psaF*, *psaE*, *PC*, *FNR*, *atpC*, *atpD*, *cab*, *rbcS*). Other promoters for the chlorophyll a/b-binding proteins may also be utilized in the present invention, such as the promoters for *LhcB* gene and *PsbP* gene from white mustard (*Sinapis alba*; Kretsch *et al.*, *Plant Mol. Biol.* 28: 219-229 (1995), herein incorporated by reference in its entirety).

5 For the purpose of expression in sink tissues of the plant, such as the tuber of the potato plant, the fruit of tomato, or the seed of *Zea mays*, wheat, rice, and barley, it is preferred that the promoters utilized in the present invention have relatively high expression in these specific tissues. A number of promoters for genes with tuber-specific or -enhanced expression are known, including the class I patatin promoter (Bevan *et al.*, *EMBO J.* 8: 1899-1906 (1986);  
 10 Jefferson *et al.*, *Plant Mol. Biol.* 14: 995-1006 (1990), both of which are herein incorporated by reference in its entirety), the promoter for the potato tuber ADPGPP genes, both the large and small subunits, the sucrose synthase promoter (Salanoubat and Belliard, *Gene.* 60: 47-56 (1987), Salanoubat and Belliard, *Gene.* 84: 181-185 (1989), both of which are herein incorporated by reference in their entirety), the promoter for the major tuber proteins including the 22 kd protein  
 15 complexes and proteinase inhibitors (Hannapel, *Plant Physiol.* 101: 703-704 (1993), herein incorporated by reference in its entirety), the promoter for the granule bound starch synthase gene (GBSS) (Visser *et al.*, *Plant Mol. Biol.* 17: 691-699 (1991), herein incorporated by reference in its entirety), and other class I and II patatins promoters (Koster-Topfer *et al.*, *Mol. Gen. Genet.* 219: 390-396 (1989); Mignery *et al.*, *Gene.* 62: 27-44 (1988), both of which are  
 20 herein incorporated by reference in their entirety).

Other promoters can also be used to express a fructose 1,6 bisphosphate aldolase gene in specific tissues, such as seeds or fruits. The promoter for  $\beta$ -conglycinin (Chen *et al.*, *Dev. Genet.*



10: 112-122 (1989), herein incorporated by reference in its entirety) or other seed-specific promoters such as the napin and phaseolin promoters, can be used. The zeins are a group of storage proteins found in *Zea mays* endosperm. Genomic clones for zein genes have been isolated (Pedersen *et al.*, *Cell* 29: 1015-1026 (1982), herein incorporated by reference in its

5 entirety), and the promoters from these clones, including the 15 kD, 16 kD, 19 kD, 22 kD, 27 kD, and gamma genes, could also be used. Other promoters known to function, for example, in *Zea mays*, include the promoters for the following genes: *waxy*, *Brittle*, *Shrunken 2*, Branching enzymes I and II, starch synthases, debranching enzymes, oleosins, glutelins, and sucrose synthases. A particularly preferred promoter for *Zea mays* endosperm expression is the promoter

10 for the glutelin gene from rice, more particularly the Osgt-1 promoter (Zheng *et al.*, *Mol. Cell Biol.* 13: 5829-5842 (1993), herein incorporated by reference in its entirety). Examples of promoters suitable for expression in wheat include those promoters for the ADPglucose pyrophosphorylase (ADPGPP) subunits, the granule bound and other starch synthases, the branching and debranching enzymes, the embryogenesis-abundant proteins, the gliadins, and the

15 glutenins. Examples of such promoters in rice include those promoters for the ADPGPP subunits, the granule bound and other starch synthases, the branching enzymes, the debranching enzymes, sucrose synthases, and the glutelins. A particularly preferred promoter is the promoter for rice glutelin, Osgt-1. Examples of such promoters for barley include those for the ADPGPP subunits, the granule bound and other starch synthases, the branching enzymes, the debranching

20 enzymes, sucrose synthases, the hordeins, the embryo globulins, and the aleurone specific proteins.

Root specific promoters may also be used. An example of such a promoter is the promoter for the acid chitinase gene (Samac *et al.*, *Plant Mol. Biol.* 25: 587-596 (1994), herein

incorporated by reference in its entirety). Expression in root tissue could also be accomplished by utilizing the root specific subdomains of the CaMV35S promoter that have been identified (Lam *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 86: 7890-7894 (1989), herein incorporated by reference in its entirety). Other root cell specific promoters include those reported by Conkling *et al.* (Conkling *et al.*, *Plant Physiol.* 93: 1203-1211 (1990), herein incorporated by reference in its entirety).

Additional promoters that may be utilized are described, for example, in U.S. Patent Nos. 5,378,619, 5,391,725, 5,428,147, 5,447,858, 5,608,144, 5,608,144, 5,614,399, 5,633,441, 5,633,435, and 4,633,436, all of which are herein incorporated by reference in their entirety. In addition, a tissue specific enhancer may be used (Fromm *et al.*, *The Plant Cell* 1: 977-984 (1989), herein incorporated by reference in its entirety). It is further understood that one or more of the promoters of the present invention may be used.

Constructs or vectors may also include, with the coding region of interest, a nucleic acid sequence that acts, in whole or in part, to terminate transcription of that region. For example, such sequences have been isolated including the Tr7 3' sequence and the nos 3' sequence (Ingelbrecht *et al.*, *The Plant Cell* 1: 671-680 (1989); Bevan *et al.*, *Nucleic Acids Res.* 11: 369-385 (1983), both of which are herein incorporated by reference in their entirety), or the like. It is understood that one or more sequences of the present invention that act, to terminate transcription may be used.

A vector or construct may also include other regulatory elements. Examples of such include the Adh intron 1 (Callis *et al.*, *Genes and Develop.* 1: 1183-1200 (1987), herein incorporated by reference in its entirety), the sucrose synthase intron (Vasil *et al.*, *Plant Physiol.* 91: 1575-1579 (1989), herein incorporated by reference in its entirety) and the TMV omega

element (Gallie *et al.*, *The Plant Cell* 1: 301-311 (1989), herein incorporated by reference in its entirety). These and other regulatory elements may be included when appropriate. It is also understood that one or more of the regulatory regions of the present invention may be used.

A vector or construct may also include a selectable marker. Selectable markers may also be used to select for plants or plant cells that contain the exogenous genetic material. Examples of such include, but are not limited to, a neo gene (Potrykus *et al.*, *Mol. Gen. Genet.* 199: 183-188 (1985), herein incorporated by reference in its entirety) which codes for kanamycin resistance and can be selected for using kanamycin, G418, etc.; a bar gene which codes for bialaphos resistance; a mutant EPSP synthase gene (Hinchee *et al.*, *Bio/Technology* 6: 915-922 (1988), herein incorporated by reference in its entirety) which encodes glyphosate resistance; a nitrilase gene which confers resistance to bromoxynil (Stalker *et al.*, *J. Biol. Chem.* 263: 6310-6314 (1988), herein incorporated by reference in its entirety); a mutant acetolactate synthase gene (ALS) which confers imidazolinone or sulphonylurea resistance (European Patent Application 154,204 (Sept. 11, 1985), herein incorporated by reference in its entirety); and a methotrexate resistant DHFR gene (Thillet *et al.*, *J. Biol. Chem.* 263: 12500-12508 (1988), herein incorporated by reference in its entirety).

A vector or construct may also include a transit peptide. Incorporation of a suitable chloroplast transit peptide may also be employed (European Patent Application Publication Number 0218571, herein incorporated by reference in its entirety). Translational enhancers may also be incorporated as part of the vector DNA. DNA constructs could contain one or more 5' non-translated leader sequences which may serve to enhance expression of the gene products from the resulting mRNA transcripts. Such sequences may be derived from the promoter selected to express the gene or can be specifically modified to increase translation of the mRNA.

Such regions may also be obtained from viral RNAs, from suitable eukaryotic genes, or from a synthetic gene sequence. For a review of optimizing expression of transgenes, see Koziel *et al.*, *Plant Mol. Biol.* 32: 393-405 (1996), herein incorporated by reference in its entirety.

A vector or construct may also include a screenable marker. Screenable markers may be used to monitor expression. Exemplary screenable markers include a  $\beta$ -glucuronidase or uidA gene (GUS) which encodes an enzyme for which various chromogenic substrates are known (Jefferson, *Plant Mol. Biol. Rep.* 5: 387-405 (1987); Jefferson *et al.*, *EMBO J.* 6: 3901-3907 (1987), both of which are herein incorporated by reference in their entirety); an R-locus gene, which encodes a product that regulates the production of anthocyanin pigments (red color) in plant tissues ((Dellaporta *et al.*, *Stadler Symposium 11*: 263-282 (1988), herein incorporated by reference in its entirety); a  $\beta$ -lactamase gene (Sutcliffe *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 75: 3737-3741 (1978), herein incorporated by reference in its entirety), a gene which encodes an enzyme for which various chromogenic substrates are known (e.g., PADAC, a chromogenic cephalosporin); a luciferase gene (Ow *et al.*, *Science* 234: 856-859 (1986), herein incorporated by reference in its entirety) a xylE gene (Zukowsky *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 80: 1101-1105 (1983), herein incorporated by reference in its entirety) which encodes a catechol dioxygenase that can convert chromogenic catechols; an  $\alpha$ -amylase gene (Ikata *et al.*, *Bio/Technol.* 8: 241-242 (1990), herein incorporated by reference in its entirety); a tyrosinase gene (Katz *et al.*, *J. Gen. Microbiol.* 129: 2703-2714 (1983), herein incorporated by reference in its entirety) which encodes an enzyme capable of oxidizing tyrosine to DOPA and dopaquinone which in turn condenses to melanin; an  $\alpha$ -galactosidase, which will turn a chromogenic  $\alpha$ -galactose substrate.

Included within the terms “selectable or screenable marker genes” are also genes which encode a secretable marker whose secretion can be detected as a means of identifying or selecting for transformed cells. Examples include markers which encode a secretable antigen that can be identified by antibody interaction, or even secretable enzymes which can be detected catalytically. Secretable proteins fall into a number of classes, including small, diffusible proteins detectable, *e.g.*, by ELISA, small active enzymes detectable in extracellular solution (*e.g.*,  $\alpha$ -amylase,  $\beta$ -lactamase, phosphinothricin transferase), or proteins which are inserted or trapped in the cell wall (such as proteins which include a leader sequence such as that found in the expression unit of extension or tobacco PR-S). Other possible selectable and/or screenable marker genes will be apparent to those of skill in the art.

There are many methods for introducing nucleic acid molecules into plant cells. Suitable methods are believed to include virtually any method by which nucleic acid molecules may be introduced into a cell, such as by *Agrobacterium* infection or direct delivery of nucleic acid molecules such as, for example, by PEG-mediated transformation, by electroporation or by acceleration of DNA coated particles, etc. (Potrykus, *Ann. Rev. Plant Physiol. Plant Mol. Biol.* 42: 205-225 (1991); Vasil, *Plant Mol. Biol.* 25: 925-937 (1994), both of which are herein incorporated by reference in their entirety). For example, electroporation has been used to transform *Zea mays* protoplasts (Fromm *et al.*, *Nature* 312: 791-793 (1986), herein incorporated by reference in its entirety).

Other vector systems suitable for introducing transforming DNA into a host plant cell includes but is not limited to binary artificial chromosome (BIBAC) vectors (Hamilton *et al.*, *Gene* 200:107-116, (1997), herein incorporated by reference in its entirety, and transfection with

RNA viral vectors (Della-Cioppa *et al.*, *Ann. N.Y. Acad. Sci.* (1996), 792 (Engineering Plants for Commercial Products and Applications), 57-61, herein incorporated by reference in its entirety.

Technology for introduction of DNA into cells is well known to those of skill in the art. Four general methods for delivering a gene into cells have been described: (1) chemical methods

5 (Graham and van der Eb, *Virology*, 54: 536-539 (1973), herein incorporated by reference in its entirety); (2) physical methods such as microinjection (Capecchi, *Cell* 22: 479-488 (1980), herein incorporated by reference in its entirety), electroporation (Wong and Neumann, *Biochem. Biophys. Res. Commun.* 107: 584-587 (1982); Fromm *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 82: 5824-5828 (1985); U. S. Patent No. 5,384,253, all of which are herein incorporated by reference

10 in their entirety), and the gene gun (Johnston and Tang, *Methods Cell Biol.* 43: 353-365 (1994), herein incorporated by reference in its entirety); (3) viral vectors (Clapp, *Clin. Perinatol.* 20: 155-168 (1993); Lu *et al.*, *J. Exp. Med.* 178: 2089-2096 (1993); Eglitis and Anderson, *Biotechnology* 6: 608-614 (1988), all of which the entirety are herein incorporated by reference); and (4) receptor-mediated mechanisms (Curiel *et al.*, *Hum. Gen. Ther.* 3: 147-154 (1992);

15 Wagner *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 89: 6099-6103 (1992), all of which the entirety are herein incorporated by reference).

Acceleration methods that may be used include, for example, microprojectile bombardment and the like. One example of a method for delivering transforming nucleic acid molecules to plant cells is microprojectile bombardment. This method has been reviewed by

20 Yang and Christou, eds., *Particle Bombardment Technology for Gene Transfer*, Oxford Press, Oxford, England (1994), herein incorporated by reference in its entirety). Non-biological particles (microprojectiles) that may be coated with nucleic acids and delivered into cells by a

propelling force. Exemplary particles include those comprised of tungsten, gold, platinum, and the like.

A particular advantage of microprojectile bombardment, in addition to it being an effective means of reproducibly, and stably transforming monocotyledons, is that neither the isolation of protoplasts (Cristou *et al.*, *Plant Physiol.* 87: 671-674 (1988), herein incorporated by reference in its entirety) nor the susceptibility of *Agrobacterium* infection is required. An illustrative embodiment of a method for delivering DNA into maize cells by acceleration is a biolistics-particle delivery system, which can be used to propel particles coated with DNA through a screen, such as a stainless steel or Nytex screen, onto a filter surface covered with corn cells cultured in suspension. Gordon-Kamm *et al.*, describes the basic procedure for coating tungsten particles with DNA (Gordon-Kamm *et al.*, *Plant Cell* 2: 603-618 (1990), herein incorporated by reference in its entirety). The screen disperses the tungsten nucleic acid particles so that they are not delivered to the recipient cells in large aggregates. A particle delivery system suitable for use with the present invention is the helium acceleration PDS-1000/He gun which is available from Bio-Rad Laboratories (Bio-Rad, Hercules, CA) (Sanford *et al.*, *Technique* 3: 3-16 (1991), herein incorporated by reference in its entirety).

For the bombardment, cells in suspension may be concentrated on filters. Filters containing the cells to be bombarded are positioned at an appropriate distance below the microprojectile stopping plate. If desired, one or more screens are also positioned between the gun and the cells to be bombarded.

Alternatively, immature embryos or other target cells may be arranged on solid culture medium. The cells to be bombarded are positioned at an appropriate distance below the macroprojectile stopping plate. If desired, one or more screens are also positioned between the

acceleration device and the cells to be bombarded. Through the use of techniques set forth herein one may obtain up to 1000 or more foci of cells transiently expressing a marker gene. The number of cells in a focus which express the exogenous gene product 48 hours post-bombardment often range from one to ten and average one to three.

5 In another alternative embodiment, plastids can be stably transformed. Methods suitable for plastid transformation in higher plants include particle gun delivery of DNA containing a selectable marker and targeting of the DNA to the plastid genome through homologous recombination (Svab *et al. Proc. Natl. Acad. Sci. (U.S.A.)* 87:8526-8530 (1990); Svab and Maliga *Proc. Natl. Acad. Sci. (U.S.A.)* 90:913-917 (1993); Staub and Maliga, P. *EMBO J.* 10 12:601-606 (1993), U.S. Patents 5, 451,513 and 5,545,818, all of which are herein incorporated by reference in their entirety).

In bombardment transformation, one may optimize the prebombardment culturing conditions and the bombardment parameters to yield the maximum numbers of stable transformants. Both the physical and biological parameters for bombardment are important in this technology. Physical factors are those that involve manipulating the DNA/microprojectile precipitate or those that affect the flight and velocity of either the macro- or microprojectiles. Biological factors include all steps involved in manipulation of cells before and immediately after bombardment, the osmotic adjustment of target cells to help alleviate the trauma associated with bombardment, and also the nature of the transforming DNA, such as linearized DNA or 15 intact supercoiled plasmids. It is believed that pre-bombardment manipulations are especially important for successful transformation of immature embryos.

20

Accordingly, it is contemplated that one may wish to adjust various aspects of the bombardment parameters in small scale studies to fully optimize the conditions. One may



particularly wish to adjust physical parameters such as gap distance, flight distance, tissue distance, and helium pressure. One may also minimize the trauma reduction factors by modifying conditions which influence the physiological state of the recipient cells and which may therefore influence transformation and integration efficiencies. For example, the osmotic state, tissue hydration and the subculture stage or cell cycle of the recipient cells may be adjusted for optimum transformation. The execution of other routine adjustments will be known to those of skill in the art in light of the present disclosure.

*Agrobacterium*-mediated transfer is a widely applicable system for introducing genes into plant cells because the DNA can be introduced into whole plant tissues, thereby bypassing the need for regeneration of an intact plant from a protoplast. The use of *Agrobacterium*-mediated plant integrating vectors to introduce DNA into plant cells is well known in the art. See, for example, the methods described (Fraley *et al.*, *Biotechnology* 3: 629-635 (1985); Rogers *et al.*, *Meth. Enzymol.* 153: 253-277 (1987), both of which are herein incorporated by reference in their entirety. Further, the integration of the Ti-DNA is a relatively precise process resulting in few rearrangements. The region of DNA to be transferred is defined by the border sequences, and intervening DNA is usually inserted into the plant genome as described (Spielmann *et al.*, *Mol. Gen. Genet.* 205: 34 (1986), herein incorporated by reference in its entirety).

Modern *Agrobacterium* transformation vectors are capable of replication in *E. coli* as well as *Agrobacterium*, allowing for convenient manipulations as described (Klee *et al.*, *In: Plant DNA Infectious Agents*, T. Hohn and J. Schell, eds., Springer-Verlag, New York, pp. 179-203 (1985), herein incorporated by reference in its entirety). Moreover, recent technological advances in vectors for *Agrobacterium*-mediated gene transfer have improved the arrangement of genes and restriction sites in the vectors to facilitate construction of vectors capable of expressing

various polypeptide coding genes. The vectors described have convenient multi-linker regions flanked by a promoter and a polyadenylation site for direct expression of inserted polypeptide coding genes and are suitable for present purposes (Rogers *et al.*, *Meth. In Enzymol*, 153: 253-277 (1987), herein incorporated by reference in its entirety). In addition, *Agrobacterium*

5 containing both armed and disarmed Ti genes can be used for the transformations. In those plant strains where *Agrobacterium*-mediated transformation is efficient, it is the method of choice because of the facile and defined nature of the gene transfer.

A transgenic plant formed using *Agrobacterium* transformation methods typically contains a single gene on one chromosome. Such transgenic plants can be referred to as being  
10 heterozygous for the added gene. More preferred is a transgenic plant that is homozygous for the added structural gene; *i.e.*, a transgenic plant that contains two added genes, one gene at the same locus on each chromosome of a chromosome pair. A homozygous transgenic plant can be obtained by sexually mating (selfing) an independent segregant transgenic plant that contains a single added gene, germinating some of the seed produced and analyzing the resulting plants  
15 produced for the gene of interest.

It is also to be understood that two different transgenic plants can also be mated to produce offspring that contain two independently segregating added, exogenous genes. Selfing of appropriate progeny can produce plants that are homozygous for both added, exogenous genes that encoding a polypeptide of interest. Back-crossing to a parental plant and out-crossing with a  
20 non-transgenic plant are also contemplated, as is vegetative propagation.

The present invention also provides for parts of the plants of the present invention. Plant parts, without limitation, include seed, endosperm, ovule and pollen. In a particularly preferred embodiment of the present invention, the plant part is a seed.

Transformation of plant protoplasts can be achieved using methods based on calcium phosphate precipitation, polyethylene glycol treatment, electroporation, and combinations of these treatments. See for example (Potrykus *et al.*, *Mol. Gen. Genet* 205: 193-200 (1986); Lorz *et al.*, *Mol. Gen. Genet.* 199: 178, (1985); Fromm *et al.*, *Nature* 319: 791(1986); Uchimiya *et al.*, *Mol. Gen. Genet.* 204:204 (1986); Callis *et al.*, *Genes and Development* 1183 (1987); Marcotte *et al.*, *Nature* 335:454 (1988), all of which are herein incorporated by reference in their entirety).

Application of these systems to different plant strains depends upon the ability to regenerate that particular plant strain from protoplasts. Illustrative methods for the regeneration of cereals from protoplasts are described (Fujimura *et al.*, *Plant Tissue Culture Letters* 2: 74 (1985); Toriyama *et al.*, *Theor Appl. Genet.* 205: 34 (1986); Yamada *et al.*, *Plant Cell Rep.* 4: 85 (1986); Abdullah *et al.*, *Biotechnology* 4: 1087 (1986), all of which are herein incorporated by reference in their entirety).

To transform plant strains that cannot be successfully regenerated from protoplasts, other ways to introduce DNA into intact cells or tissues can be utilized. For example, regeneration of cereals from immature embryos or explants can be effected as described (Vasil, *Biotechnology* 6: 397 (1988), herein incorporated by reference in its entirety). In addition, "particle gun" or high-velocity microprojectile technology can be utilized (Vasil *et al.*, *Bio/Technology* 10: 667, (1992), herein incorporated by reference in its entirety).

Using the latter technology, DNA is carried through the cell wall and into the cytoplasm on the surface of small metal particles as described (Klein *et al.*, *Nature* 328: 70 (1987); Klein *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 85: 8502-8505 (1988); McCabe *et al.*, *Biotechnology* 6 :923 (1988), all of which are herein incorporated by reference in their entirety). The metal particles

penetrate through several layers of cells and thus allow the transformation of cells within tissue explants.

Other methods of cell transformation can also be used and include but are not limited to introduction of DNA into plants by direct DNA transfer into pollen (Zhou *et al.*, *Meth. Enzymol.* 101: 433 (1983); Hess *et al.*, *Intern Rev. Cytol.* 107:367 (1987); Luo *et al.*, *Plant Mol. Biol. Reporter* 6: 165 (1988), all of which are herein incorporated by reference in their entirety), by direct injection of DNA into reproductive organs of a plant (Pena *et al.*, *Nature* 325: 274 (1987), herein incorporated by reference in its entirety), or by direct injection of DNA into the cells of immature embryos followed by the rehydration of dessicated embryos (Neuhaus *et al.*, *Theor. Appl. Genet.* 75: 30,(1987), herein incorporated by reference in its entirety).

The regeneration, development, and cultivation of plants from single plant protoplast transformants or from various transformed explants is well known in the art (Weissbach and Weissbach, *In: Methods for Plant Molecular Biology*, (Eds.), Academic Press, Inc. San Diego, CA, (1988), herein incorporated by reference in its entirety). This regeneration and growth process typically includes the steps of selection of transformed cells, culturing those individualized cells through the usual stages of embryonic development through the rooted plantlet stage. Transgenic embryos and seeds are similarly regenerated. The resulting transgenic rooted shoots are thereafter planted in an appropriate plant growth medium such as soil.

The development or regeneration of plants containing the foreign, exogenous gene that encodes a protein of interest is well known in the art. Preferably, the regenerated plants are self-pollinated to provide homozygous transgenic plants, as discussed before. Otherwise, pollen obtained from the regenerated plants is crossed to seed-grown plants of agronomically important lines. Conversely, pollen from plants of these important lines is used to pollinate regenerated

plants. A transgenic plant of the present invention containing a desired polypeptide is cultivated using methods well known to one skilled in the art.

There are a variety of methods for the regeneration of plants from plant tissue. The particular method of regeneration will depend on the starting plant tissue and the particular plant species to be regenerated.

Methods for transforming dicots, primarily by use of *Agrobacterium tumefaciens*, and obtaining transgenic plants have been published for cotton (U. S. Patent No. 5,004,863, U.S. Patent No. 5,159,135, U.S. Patent No. 5,518,908, all of which are herein incorporated by reference in their entirety); soybean (U. S. Patent No. 5,569,834, U. S. Patent No. 5,416,011, McCabe *et al.*, *Biotechnology* 6: 923 (1988), Christou *et al.*, *Plant Physiol.* 87: 671-674 (1988), all of which are herein incorporated by reference in their entirety); *Brassica* ( U. S. Patent No. 5,463,174, herein incorporated by reference in its entirety); peanut (Cheng *et al.*, *Plant Cell Rep.* 15: 653-657 (1996), McKently *et al.*, *Plant Cell Rep.* 14: 699-703 (1995), all of which are herein incorporated by reference in their entirety); papaya (Yang *et al.*, (1996), herein incorporated by reference in its entirety); pea (Grant *et al.*, *Plant Cell Rep.* 15: 254-258, (1995), herein incorporated by reference in its entirety).

Transformation of monocotyledons using electroporation, particle bombardment, and *Agrobacterium* have also been reported. Transformation and plant regeneration have been achieved in asparagus (Bytebier *et al.*, *Proc. Natl. Acad. Sci. U.S.A.* 84: 5345, (1987), herein incorporated by reference in its entirety); barley (Wan and Lemaux, *Plant Physiol* 104: 37 (1994), herein incorporated by reference in its entirety); maize (Rhodes *et al.*, *Science* 240: 204 (1988), Gordon-Kamm *et al.*, *Plant Cell* 2: 603, (1990), Fromm *et al.*, *Bio/Technology* 8: 833 (1990), Koziel *et al.*, *Bio/Technology* 11: 194 (1993), Armstrong *et al.*, *Crop Science* 35: 550-

557 (1995), all of which are herein incorporated by reference in their entirety); oat (Somers *et al.*, *Bio/Technology* 10: 1589 (1992), herein incorporated by reference in its entirety); orchardgrass (Horn *et al.*, *Plant Cell Rep.* 7: 469 (1988), herein incorporated by reference in its entirety); rice (Toriyama *et al.*, *Theor Appl. Genet.* 205: 34 (1986); Park *et al.*, *Plant Mol. Biol.* 32: 1135-1148, (1996); Abedinia *et al.*, *Aust. J. Plant Physiol.* 24: 133-141, (1997); Zhang and Wu, *Theor. Appl. Genet.* 76: 835, (1988); Zhang *et al.*, *Plant Cell Rep.* 7: 379, (1988); Battraw and Hall, *Plant Sci.* 86: 191-202, (1992); Christou *et al.*, *Bio/Technology* 9: 957, (1991), all of which are herein incorporated by reference in their entirety); sugarcane (Bower and Birch, *Plant J.* 2: 409, (1992), herein incorporated by reference in its entirety); tall fescue (Wang *et al.*, *Bio/Technology* 10:691 (1992), herein incorporated by reference in its entirety), and wheat (Vasil *et al.*, *Bio/Technology* 10:667 (1992); U. S. Patent No. 5,631,152, both of which are herein incorporated by reference in their entirety).

Assays for gene expression based on the transient expression of cloned nucleic acid constructs have been developed by introducing the nucleic acid molecules into plant cells by polyethylene glycol treatment, electroporation, or particle bombardment (Marcotte *et al.*, *Nature* 335: 454-457 (1988); Marcotte *et al.*, *Plant Cell* 1: 523-532 (1989); McCarty *et al.*, *Cell* 66: 895-905 (1991); Hattori *et al.*, *Genes Dev.* 6: 609-618 (1992); Goff *et al.*, *EMBO J.* 9: 2517-2522 (1990), all of which are herein incorporated by reference in their entirety). Transient expression systems may be used to functionally dissect gene constructs (*See generally*, Mailga *et al.*, *Methods in Plant Molecular Biology*, Cold Spring Harbor Press (1995), herein incorporated by reference in its entirety).

Any of the nucleic acid molecules of the present invention may be introduced into a plant cell in a permanent or transient manner in combination with other genetic elements such as

vectors, promoters enhancers etc. Further any of the *Cyanidium caldarium* gene homologue or fragment thereof homologues of the present invention may be introduced into a plant cell in a manner that allows for over expression of the protein or fragment thereof encoded by the nucleic acid molecule.

5           Antibodies have been expressed in plants (Hiatt *et al.*, *Nature* 342: 76-78 (1989); Conrad and Fielder, *Plant Mol. Biol.* 26: 1023-1030 (1994), both of which are herein incorporated by reference in their entirety). Cytoplasmic expression of a scFv (single-chain Fv antibodies) has been reported to delay infection by artichoke mottled crinkle virus. Transgenic plants that express antibodies directed against endogenous proteins may exhibit a physiological effect  
10 (Philips *et al.*, *EMBO J.* 16:4489-4496 (1997); Marion-Poll, *Trends in Plant Science* 2:447-448 (1997), both of which are herein incorporated by reference in their entirety). For example, expressed anti-abscisic antibodies reportedly result in a general perturbation of seed development (Philips *et al.*, *EMBO J.* 16:4489-4496 (1997), herein incorporated by reference in its entirety).

          Antibodies that are catalytic may also be expressed in plants (abzymes). The principle  
15 behind abzymes is that since antibodies may be raised against many molecules, this recognition ability can be directed toward generating antibodies that bind transition states to force a chemical reaction forward (Persidas, *Nature Biotechnology* 15: 1313-1315 (1997); Baca *et al.*, *Ann. Rev. Biophys. Biomol. Struct.* 26: 461-493 (1997), both of which are herein incorporated by reference in their entirety). The catalytic abilities of abzymes may be enhanced by site directed  
20 mutagenesis. Examples of abzymes are, for example, set forth in U.S. Patent No: 5,658,753; U.S. Patent No. 5,632,990; U.S. Patent No. 5,631,137; U.S. Patent 5,602,015; U.S. Patent No. 5,559,538; U.S. Patent No. 5,576,174; U.S. Patent No. 5,500,358; U.S. Patent 5,318,897; U.S.

Patent No. 5,298,409; U.S. Patent No. 5,258,289 and U.S. Patent No. 5,194,585, all of which are herein incorporated in their entirety.

It is understood that any of the antibodies of the present invention may be expressed in plants and that such expression can result in a physiological effect. It is also understood that any  
5 of the expressed antibodies may be catalytic.

**(f) Fungal Constructs and Fungal Transformants**

The present invention also relates to a fungal recombinant vector comprising exogenous genetic material. The present invention also relates to a fungal cell comprising a fungal recombinant vector. The present invention also relates to methods for obtaining a recombinant  
10 fungal host cell comprising introducing into a fungal host cell exogenous genetic material.

Exogenous genetic material may be transferred into a fungal cell. Exogenous genetic material is any genetic material, whether naturally occurring or otherwise, from any source that is capable of being inserted into any organism. In a preferred embodiment the exogenous genetic material includes a nucleic acid molecule having a sequence selected from the group consisting  
15 of SEQ ID NO: 1 through SEQ ID NO: 5674 or complements thereof.

The fungal recombinant vector may be any vector which can be conveniently subjected to recombinant DNA procedures. The choice of a vector will typically depend on the compatibility of the vector with the fungal host cell into which the vector is to be introduced. The vector may be a linear or a closed circular plasmid. The vector system may be a single vector or plasmid or  
20 two or more vectors or plasmids which together contain the total DNA to be introduced into the genome of the fungal host.

The fungal vector may be an autonomously replicating vector, *i.e.*, a vector which exists as an extrachromosomal entity, the replication of which is independent of chromosomal



replication, *e.g.*, a plasmid, an extrachromosomal element, a minichromosome, or an artificial chromosome. The vector may contain any means for assuring self-replication. Alternatively, the vector may be one which, when introduced into the fungal cell, is integrated into the genome and replicated together with the chromosome(s) into which it has been integrated. For integration,

5 the vector may rely on the nucleic acid sequence of the vector for stable integration of the vector into the genome by homologous or nonhomologous recombination. Alternatively, the vector may contain additional nucleic acid sequences for directing integration by homologous recombination into the genome of the fungal host. The additional nucleic acid sequences enable the vector to be integrated into the host cell genome at a precise location(s) in the

10 chromosome(s). To increase the likelihood of integration at a precise location, there should be preferably two nucleic acid sequences which individually contain a sufficient number of nucleic acids, preferably 400 bp to 1500 bp, more preferably 800 bp to 1000 bp, which are highly homologous with the corresponding target sequence to enhance the probability of homologous recombination. These nucleic acid sequences may be any sequence that is homologous with a

15 target sequence in the genome of the fungal host cell, and, furthermore, may be non-encoding or encoding sequences.

For autonomous replication, the vector may further comprise an origin of replication enabling the vector to replicate autonomously in the host cell in question. Examples of origin of replications for use in a yeast host cell are the 2 micron origin of replication and the combination

20 of CEN3 and ARS 1. Any origin of replication may be used which is compatible with the fungal host cell of choice.

The vectors of the present invention preferably contain one or more selectable markers which permit easy selection of transformed cells. A selectable marker is a gene the product of

which provides, for example biocide or viral resistance, resistance to heavy metals, prototrophy to auxotrophs, and the like. The selectable marker may be selected from the group including, but not limited to, *amdS* (acetamidase), *argB* (ornithine carbamoyltransferase), *bar* (phosphinothricin acetyltransferase), *hygB* (hygromycin phosphotransferase), *niaD* (nitrate reductase), *pyrG* (orotidine-5'-phosphate decarboxylase), and *sC* (sulfate adenylyltransferase), and *trpC* (anthranilate synthase). Preferred for use in an *Aspergillus* cell are the *amdS* and *pyrG* markers of *Aspergillus nidulans* or *Aspergillus oryzae* and the *bar* marker of *Streptomyces hygroscopicus*. Furthermore, selection may be accomplished by co-transformation, e.g., as described in WO 91/17243, herein incorporated by reference in its entirety. A nucleic acid sequence of the present invention may be operably linked to a suitable promoter sequence. The promoter sequence is a nucleic acid sequence which is recognized by the fungal host cell for expression of the nucleic acid sequence. The promoter sequence contains transcription and translation control sequences which mediate the expression of the protein or fragment thereof.

A promoter may be any nucleic acid sequence which shows transcriptional activity in the fungal host cell of choice and may be obtained from genes encoding polypeptides either homologous or heterologous to the host cell. Examples of suitable promoters for directing the transcription of a nucleic acid construct of the invention in a filamentous fungal host are promoters obtained from the genes encoding *Aspergillus oryzae* TAKA amylase, *Rhizomucor miehei* aspartic proteinase, *Aspergillus niger* neutral alpha-amylase, *Aspergillus niger* acid stable alpha-amylase, *Aspergillus niger* or *Aspergillus awamori* glucoamylase (*glaA*), *Rhizomucor miehei* lipase, *Aspergillus oryzae* alkaline protease, *Aspergillus oryzae* triose phosphate isomerase, *Aspergillus nidulans* acetamidase, and hybrids thereof. In a yeast host, a useful promoter is the *Saccharomyces cerevisiae* enolase (*eno-1*) promoter. Particularly preferred

promoters are the TKA amyase, NA2-tpi (a hybrid of the promoters from the genes encoding *Aspergillus niger* neutral alpha -amyase and *Aspergillus oryzae* triose phosphate isomerase), and glaA promoters.

A protein or fragment thereof encoding nucleic acid molecule of the present invention  
5 may also be operably linked to a terminator sequence at its 3' terminus. The terminator sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any terminator which is functional in the fungal host cell of choice may be used in the present invention, but particularly preferred terminators are obtained from the genes encoding *Aspergillus oryzae* TKA amyase, *Aspergillus niger* glucoamyase,  
10 *Aspergillus nidulans* anthranilate synthase, *Aspergillus niger* alpha-glucosidase, and *Saccharomyces cerevisiae* enolase.

A protein or fragment thereof encoding nucleic acid molecule of the present invention  
may also be operably linked to a suitable leader sequence. A leader sequence is a nontranslated region of a mRNA which is important for translation by the fungal host. The leader sequence is  
15 operably linked to the 5' terminus of the nucleic acid sequence encoding the protein or fragment thereof. The leader sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any leader sequence which is functional in the fungal host cell of choice may be used in the present invention, but particularly preferred leaders are obtained from the genes encoding *Aspergillus oryzae* TKA amyase and  
20 *Aspergillus oryzae* triose phosphate isomerase.

A polyadenylation sequence may also be operably linked to the 3' terminus of the nucleic acid sequence of the present invention. The polyadenylation sequence is a sequence which when transcribed is recognized by the fungal host to add polyadenosine residues to transcribed

mRNA. The polyadenylation sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any polyadenylation sequence which is functional in the fungal host of choice may be used in the present invention, but particularly preferred polyadenylation sequences are obtained from the genes encoding

5 *Aspergillus oryzae* TAKA amylase, *Aspergillus niger* glucoamylase, *Aspergillus nidulans* anthranilate synthase, and *Aspergillus niger* alpha-glucosidase.

To avoid the necessity of disrupting the cell to obtain the protein or fragment thereof, and to minimize the amount of possible degradation of the expressed protein or fragment thereof within the cell, it is preferred that expression of the protein or fragment thereof gives rise to a

10 product secreted outside the cell. To this end, the protein or fragment thereof of the present invention may be linked to a signal peptide linked to the amino terminus of the protein or fragment thereof. A signal peptide is an amino acid sequence which permits the secretion of the protein or fragment thereof from the fungal host into the culture medium. The signal peptide may be native to the protein or fragment thereof of the invention or may be obtained from

15 foreign sources. The 5' end of the coding sequence of the nucleic acid sequence of the present invention may inherently contain a signal peptide coding region naturally linked in translation reading frame with the segment of the coding region which encodes the secreted protein or fragment thereof. Alternatively, the 5' end of the coding sequence may contain a signal peptide coding region which is foreign to that portion of the coding sequence which encodes the secreted

20 protein or fragment thereof. The foreign signal peptide may be required where the coding sequence does not normally contain a signal peptide coding region. Alternatively, the foreign signal peptide may simply replace the natural signal peptide to obtain enhanced secretion of the desired protein or fragment thereof. The foreign signal peptide coding region may be obtained

from a glucoamylase or an amylase gene from an *Aspergillus* species, a lipase or proteinase gene from *Rhizomucor miehei*, the gene for the alpha-factor from *Saccharomyces cerevisiae*, or the calf preprochymosin gene. An effective signal peptide for fungal host cells is the *Aspergillus oryzae* TAKA amylase signal, *Aspergillus niger* neutral amylase signal, the *Rhizomucor miehei* 5 aspartic proteinase signal, the *Humicola lanuginosus* cellulase signal, or the *Rhizomucor miehei* lipase signal. However, any signal peptide capable of permitting secretion of the protein or fragment thereof in a fungal host of choice may be used in the present invention.

A protein or fragment thereof encoding nucleic acid molecule of the present invention may also be linked to a propeptide coding region. A propeptide is an amino acid sequence found 10 at the amino terminus of a protein or proenzyme. Cleavage of the propeptide from the proprotein yields a mature biochemically active protein. The resulting polypeptide is known as a propolypeptide or proenzyme (or a zymogen in some cases). Propolypeptides are generally inactive and can be converted to mature active polypeptides by catalytic or autocatalytic cleavage of the propeptide from the propolypeptide or proenzyme. The propeptide coding region may be 15 native to the protein or fragment thereof or may be obtained from foreign sources. The foreign propeptide coding region may be obtained from the *Saccharomyces cerevisiae* alpha-factor gene or *Myceliophthora thermophila* laccase gene (WO 95/33836, herein incorporated by reference in its entirety).

The procedures used to ligate the elements described above to construct the recombinant 20 expression vector of the present invention are well known to one skilled in the art (see, for example, Sambrook, 2nd ed., *et al.*, *Molecular Cloning, A Laboratory Manual* Cold Spring Harbor, N.Y., (1989)).

The present invention also relates to recombinant fungal host cells produced by the methods of the present invention which are advantageously used with the recombinant vector of the present invention. The cell is preferably transformed with a vector comprising a nucleic acid sequence of the invention followed by integration of the vector into the host chromosome. The choice of fungal host cells will to a large extent depend upon the gene encoding the protein or fragment thereof and its source. The fungal host cell may be a yeast cell or a filamentous fungal cell.

"Yeast" as used herein includes *Ascosporogenous* yeast (*Endomycetales*), *Basidiosporogenous* yeast, and yeast belonging to the *Fungi Imperfecti* (*Blastomycetes*). The *Ascosporogenous* yeasts are divided into the families *Spermophthoraceae* and *Saccharomycetaceae*. The latter is comprised of four subfamilies, *Schizosaccharomycoideae* (for example, genus *Schizosaccharomyces*), *Nadsonioideae*, *Lipomycoideae*, and *Saccharomycoideae* (for example, genera *Pichia*, *Kluyveromyces* and *Saccharomyces*). The *Basidiosporogenous* yeasts include the genera *Leucosporidim*, *Rhodosporidium*, *Sporidiobolus*, *Filobasidium*, and *Filobasidiella*. Yeast belonging to the *Fungi Imperfecti* are divided into two families, *Sporobolomycetaceae* (for example, genera *Sorobolomyces* and *Bullera*) and *Cryptococcaceae* (for example, genus *Candida*). Since the classification of yeast may change in the future, for the purposes of this invention, yeast shall be defined as described in Biology and Activities of Yeast (Skinner *et al.*, eds, *Soc. App. Bacteriol. Symposium Series* No. 9, (1980), herein incorporated by reference in its entirety). The biology of yeast and manipulation of yeast genetics are well known in the art (*see*, for example, *Biochemistry and Genetics of Yeast*, Bacil, Horecker, and Stopani, editors, 2nd edition, 1987; *The Yeasts*, Rose, and Harrison, editors, 2nd edition, (1987);

and *The Molecular Biology of the Yeast Saccharomyces*, Strathern *et al.*, editors, (1981), all of which are herein incorporated by reference in their entirety).

"Fungi" as used herein includes the phyla *Ascomycota*, *Basidiomycota*, *Chytridiomycota*, and *Zygomycota* (as defined by Hawksworth *et al.*, In: Ainsworth and Bisby's *Dictionary of The Fungi*, 8th edition, 1995, CAB International, University Press, Cambridge, UK; herein incorporated by reference in its entirety) as well as the Oomycota (as cited in Hawksworth *et al.*, In: Ainsworth and Bisby's *Dictionary of The Fungi*, 8th edition, 1995, CAB International, University Press, Cambridge, UK) and all mitosporic fungi (Hawksworth *et al.*, In: Ainsworth and Bisby's *Dictionary of The Fungi*, 8th edition, 1995, CAB International, University Press, Cambridge, UK). Representative groups of *Ascomycota* include, for example, *Neurospora*, *Eupenicillium* (= *Penicillium*), *Emericella* (= *Aspergillus*), *Eurotium* (= *Aspergillus*), and the true yeasts listed above. Examples of *Basidiomycota* include mushrooms, rusts, and smuts. Representative groups of *Chytridiomycota* include, for example, *Allomyces*, *Blastocladiella*, *Coelomomyces*, and aquatic fungi. Representative groups of *Oomycota* include, for example, *Saprolegniomycetous* aquatic fungi (water molds) such as *Achlya*. Examples of mitosporic fungi include *Aspergillus*, *Penicillium*, *Candida*, and *Alternaria*. Representative groups of *Zygomycota* include, for example, *Rhizopus* and *Mucor*.

"Filamentous fungi" include all filamentous forms of the subdivision *Eumycota* and *Oomycota* (as defined by Hawksworth *et al.*, In: Ainsworth and Bisby's *Dictionary of The Fungi*, 8th edition, 1995, CAB International, University Press, Cambridge, UK). The filamentous fungi are characterized by a vegetative mycelium composed of chitin, cellulose, glucan, chitosan, mannan, and other complex polysaccharides. Vegetative growth is by hyphal elongation and carbon catabolism is obligately aerobic. In contrast, vegetative growth by yeasts such as

*Saccharomyces cerevisiae* is by budding of a unicellular thallus and carbon catabolism may be fermentative.

In one embodiment, the fungal host cell is a yeast cell. In a preferred embodiment, the yeast host cell is a cell of the species of *Candida*, *Kluyveromyces*, *Saccharomyces*,

5 *Schizosaccharomyces*, *Pichia*, and *Yarrowia*. In a preferred embodiment, the yeast host cell is a *Saccharomyces cerevisiae* cell, a *Saccharomyces carlsbergensis*, *Saccharomyces diastaticus* cell, a *Saccharomyces douglasii* cell, a *Saccharomyces kluyveri* cell, a *Saccharomyces norbensis* cell, or a *Saccharomyces oviformis* cell. In another preferred embodiment, the yeast host cell is a *Kluyveromyces lactis* cell. In another preferred embodiment, the yeast host cell is a *Yarrowia*  
10 *lipolytica* cell.

In another embodiment, the fungal host cell is a filamentous fungal cell. In a preferred embodiment, the filamentous fungal host cell is a cell of the species of, but not limited to,

*Acremonium*, *Aspergillus*, *Fusarium*, *Humicola*, *Myceliophthora*, *Mucor*, *Neurospora*,

*Penicillium*, *Thielavia*, *Tolypocladium*, and *Trichoderma*. In a preferred embodiment, the

15 filamentous fungal host cell is an *Aspergillus* cell. In another preferred embodiment, the filamentous fungal host cell is an *Acremonium* cell. In another preferred embodiment, the

filamentous fungal host cell is a *Fusarium* cell. In another preferred embodiment, the

filamentous fungal host cell is a *Humicola* cell. In another preferred embodiment, the

filamentous fungal host cell is a *Myceliophthora* cell. In another even preferred embodiment, the

20 filamentous fungal host cell is a *Mucor* cell. In another preferred embodiment, the filamentous

fungal host cell is a *Neurospora* cell. In another preferred embodiment, the filamentous fungal

host cell is a *Penicillium* cell. In another preferred embodiment, the filamentous fungal host cell

is a *Thielavia* cell. In another preferred embodiment, the filamentous fungal host cell is a



*Tolypocladium* cell. In another preferred embodiment, the filamentous fungal host cell is a *Trichoderma* cell. In a preferred embodiment, the filamentous fungal host cell is an *Aspergillus oryzae* cell, an *Aspergillus niger* cell, an *Aspergillus foetidus* cell, or an *Aspergillus japonicus* cell. In another preferred embodiment, the filamentous fungal host cell is a *Fusarium oxysporum* cell or a *Fusarium graminearum* cell. In another preferred embodiment, the filamentous fungal host cell is a *Humicola insolens* cell or a *Humicola lanuginosus* cell. In another preferred embodiment, the filamentous fungal host cell is a *Myceliophthora thermophila* cell. In a most preferred embodiment, the filamentous fungal host cell is a *Mucor miehei* cell. In a most preferred embodiment, the filamentous fungal host cell is a *Neurospora crassa* cell. In a most preferred embodiment, the filamentous fungal host cell is a *Penicillium purpurogenum* cell. In another most preferred embodiment, the filamentous fungal host cell is a *Thielavia terrestris* cell. In another most preferred embodiment, the *Trichoderma* cell is a *Trichoderma reesei* cell, a *Trichoderma viride* cell, a *Trichoderma longibrachiatum* cell, a *Trichoderma harzianum* cell, or a *Trichoderma koningii* cell. In a particular preferred embodiment, the fungal host cell is selected from an *A. nidulans* cell, an *A. niger* cell, an *A. oryzae* cell and an *A. sojae* cell. In a further particular preferred embodiment, the fungal host cell is an *A. nidulans* cell.

The recombinant fungal host cells of the present invention may further comprise one or more sequences which encode one or more factors that are advantageous in the expression of the protein or fragment thereof, for example, an activator (e.g., a trans-acting factor), a chaperone, and a processing protease. The nucleic acids encoding one or more of these factors are preferably not operably linked to the nucleic acid encoding the protein or fragment thereof. An activator is a protein which activates transcription of a nucleic acid sequence encoding a polypeptide (Kudla *et al.*, *EMBO* 9: 1355-1364(1990); Jarai and Buxton, *Current Genetics* 26:

2238-244(1994); Verdier, *Yeast* 6: 271-297(1990), all of which are herein incorporated by reference in their entirety). The nucleic acid sequence encoding an activator may be obtained from the genes encoding *Saccharomyces cerevisiae* heme activator protein 1 (hap1), *Saccharomyces cerevisiae* galactose metabolizing protein 4 (gal4), and *Aspergillus nidulans* ammonia regulation protein (areA). For further examples, see Verdier, *Yeast* 6: 271-297 (1990); MacKenzie *et al.*, *Journal of Gen. Microbiol.* 139: 2295-2307 (1993), both of which are herein incorporated by reference in their entirety). A chaperone is a protein which assists another protein in folding properly (Hartl *et al.*, *TIBS* 19: 20-25 (1994); Bergeron *et al.*, *TIBS* 19: 124-128 (1994); Demolder *et al.*, *J. Biotechnology* 32: 179-189 (1994); Craig, *Science* 260: 1902-1903(1993); Gething and Sambrook, *Nature* 355: 33-45 (1992); Puig and Gilbert, *J Biol. Chem.* 269: 7764-7771 (1994); Wang and Tsou, *FASEB Journal* 7: 1515-11157 (1993); Robinson *et al.*, *Bio/Technology* 1: 381-384 (1994), all of which are herein incorporated by reference in their entirety). The nucleic acid sequence encoding a chaperone may be obtained from the genes encoding *Aspergillus oryzae* protein disulphide isomerase, *Saccharomyces cerevisiae* calnexin, *Saccharomyces cerevisiae* BiP/GRP78, and *Saccharomyces cerevisiae* Hsp70. For further examples, see Gething and Sambrook, *Nature* 355: 33-45 (1992); Hartl *et al.*, *TIBS* 19: 20-25 (1994), both of which are herein incorporated by reference in their entirety. A processing protease is a protease that cleaves a propeptide to generate a mature biochemically active polypeptide (Enderlin and Ogrydziak, *Yeast* 10: 67-79 (1994); Fuller *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 86: 1434-1438 (1989); Julius *et al.*, *Cell* 37: 1075-1089 (1984); Julius *et al.*, *Cell* 32: 839-852 (1983), all of which are incorporated by reference in their entirety). The nucleic acid sequence encoding a processing protease may be obtained from the genes encoding *Aspergillus niger* Kex2, *Saccharomyces cerevisiae* dipeptidylaminopeptidase, *Saccharomyces cerevisiae*

Kex2, and *Yarrowia lipolytica* dibasic processing endoprotease (xpr6). Any factor that is functional in the fungal host cell of choice may be used in the present invention.

Fungal cells may be transformed by a process involving protoplast formation, transformation of the protoplasts, and regeneration of the cell wall in a manner known per se.

5 Suitable procedures for transformation of *Aspergillus* host cells are described in EP 238 023 and Yelton *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 81: 1470-1474 (1984), both of which are herein incorporated by reference in their entirety. A suitable method of transforming *Fusarium* species is described by Malardier *et al.*, *Gene* 78: 147-156 (1989), herein incorporated by reference in its entirety. Yeast may be transformed using the procedures described by Becker and Guarente, In:  
10 Abelson and Simon, (eds.), *Guide to Yeast Genetics and Molecular Biology, Methods Enzymol.*, Volume 194, pp 182-187, Academic Press, Inc., New York; Ito *et al.*, *J. Bacteriology* 153: 163 (1983); Hinnen *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 75: 1920, (1978), all of which are herein incorporated by reference in their entirety.

The present invention also relates to methods of producing the protein or fragment  
15 thereof comprising culturing the recombinant fungal host cells under conditions conducive for expression of the protein or fragment thereof. The fungal cells of the present invention are cultivated in a nutrient medium suitable for production of the protein or fragment thereof using methods known in the art. For example, the cell may be cultivated by shake flask cultivation, small-scale or large-scale fermentation (including continuous, batch, fed-batch, or solid state  
20 fermentations) in laboratory or industrial fermentors performed in a suitable medium and under conditions allowing the protein or fragment thereof to be expressed and/or isolated. The cultivation takes place in a suitable nutrient medium comprising carbon and nitrogen sources and inorganic salts, using procedures known in the art (*see, e.g.*, Bennett, and LaSure, eds., *More*

*Gene Manipulations in Fungi*, Academic Press, CA, (1991), herein incorporated by reference in its entirety). Suitable media are available from commercial suppliers or may be prepared according to published compositions (e.g., in catalogues of the American Type Culture Collection, Manassas, VA). If the protein or fragment thereof is secreted into the nutrient medium, a protein or fragment thereof can be recovered directly from the medium. If the protein or fragment thereof is not secreted, it is recovered from cell lysates.

The expressed protein or fragment thereof may be detected using methods known in the art that are specific for the particular protein or fragment. These detection methods may include the use of specific antibodies, formation of an enzyme product, or disappearance of an enzyme substrate. For example, if the protein or fragment thereof has enzymatic activity, an enzyme assay may be used. Alternatively, if polyclonal or monoclonal antibodies specific to the protein or fragment thereof are available, immunoassays may be employed using the antibodies to the protein or fragment thereof. The techniques of enzyme assay and immunoassay are well known to those skilled in the art.

The resulting protein or fragment thereof may be recovered by methods known in the arts. For example, the protein or fragment thereof may be recovered from the nutrient medium by conventional procedures including, but not limited to, centrifugation, filtration, extraction, spray-drying, evaporation, or precipitation. The recovered protein or fragment thereof may then be further purified by a variety of chromatographic procedures, e.g., ion exchange chromatography, gel filtration chromatography, affinity chromatography, or the like.

#### **(g) Mammalian Constructs and Transformed Mammalian Cells**

The present invention also relates to methods for obtaining a recombinant mammalian host cell, comprising introducing into a mammalian host cell exogenous genetic material. The

present invention also relates to a mammalian cell comprising a mammalian recombinant vector. The present invention also relates to methods for obtaining a recombinant mammalian host cell, comprising introducing into a mammalian cell exogenous genetic material.

Mammalian cell lines available as hosts for expression are known in the art and include many immortalized cell lines available from the American Type Culture Collection (ATCC, Manassas, VA), such as HeLa cells, Chinese hamster ovary (CHO) cells, baby hamster kidney (BHK) cells, and a number of other cell lines. Suitable promoters for mammalian cells are also known in the art and include viral promoters such as that from Simian Virus 40 (SV40) (Fiers *et al.*, *Nature* 273: 113 (1978), herein incorporated by reference in its entirety), Rous sarcoma virus (RSV), adenovirus (ADV), and bovine papilloma virus (BPV). Mammalian cells may also require terminator sequences and poly-A addition sequences. Enhancer sequences which increase expression may also be included, and sequences which promote amplification of the gene may also be desirable (for example methotrexate resistance genes).

Vectors suitable for replication in mammalian cells may include viral replicons, or sequences which insure integration of the appropriate sequences encoding HCV epitopes into the host genome. For example, another vector used to express foreign DNA is vaccinia virus. In this case, for example, a nucleic acid molecule encoding a *Cyanidium caldarium* protein homologue or fragment thereof is inserted into the vaccinia genome. Techniques for the insertion of foreign DNA into the vaccinia virus genome are known in the art, and may utilize, for example, homologous recombination. Such heterologous DNA is generally inserted into a gene which is non-essential to the virus, for example, the thymidine kinase gene (tk), which also provides a selectable marker. Plasmid vectors that greatly facilitate the construction of recombinant viruses have been described (*see*, for example, Mackett *et al.*, *J Virol.* 49: 857 (1984); Chakrabarti *et al.*,

*Mol. Cell. Biol.* 5: 3403 (1985); Moss, In: *Gene Transfer Vectors For Mammalian Cells* (Miller and Calos, eds., Cold Spring Harbor Laboratory, N.Y., p. 10, (1987); all of which are herein incorporated by reference in their entirety). Expression of the HCV polypeptide then occurs in cells or animals which are infected with the live recombinant vaccinia virus.

5           The sequence to be integrated into the mammalian sequence may be introduced into the primary host by any convenient means, which includes calcium precipitated DNA, spheroplast fusion, transformation, electroporation, biolistics, lipofection, microinjection, or other convenient means. Where an amplifiable gene is being employed, the amplifiable gene may serve as the selection marker for selecting hosts into which the amplifiable gene has been introduced.

10           Alternatively, one may include with the amplifiable gene another marker, such as a drug resistance marker, e.g. neomycin resistance (G418 in mammalian cells), hygromycin in resistance etc., or an auxotrophy marker (HIS3, TRP1, LEU2, URA3, ADE2, LYS2, etc.) for use in yeast cells.

15           Depending upon the nature of the modification and associated targeting construct, various techniques may be employed for identifying targeted integration. Conveniently, the DNA may be digested with one or more restriction enzymes and the fragments probed with an appropriate DNA fragment which will identify the properly sized restriction fragment associated with integration.

20           One may use different promoter sequences, enhancer sequences, or other sequence which will allow for enhanced levels of expression in the expression host. Thus, one may combine an enhancer from one source, a promoter region from another source, a 5'- noncoding region upstream from the initiation methionine from the same or different source as the other sequences, and the like. One may provide for an intron in the non-coding region with appropriate splice

sites or for an alternative 3'- untranslated sequence or polyadenylation site. Depending upon the particular purpose of the modification, any of these sequences may be introduced, as desired.

Where selection is intended, the sequence to be integrated will have with it a marker gene, which allows for selection. The marker gene may conveniently be downstream from the target gene and may include resistance to a cytotoxic agent, e.g. antibiotics, heavy metals, or the like, resistance or susceptibility to HAT, gancyclovir, etc., complementation to an auxotrophic host, particularly by using an auxotrophic yeast as the host for the subject manipulations, or the like. The marker gene may also be on a separate DNA molecule, particularly with primary mammalian cells. Alternatively, one may screen the various transformants, due to the high efficiency of recombination in yeast, by using hybridization analysis, PCR, sequencing, or the like.

For homologous recombination, constructs can be prepared where the amplifiable gene will be flanked, normally on both sides with DNA homologous with the DNA of the target region. Depending upon the nature of the integrating DNA and the purpose of the integration, the homologous DNA will generally be within 100 kb, usually 50 kb, preferably about 25 kb, of the transcribed region of the target gene, more preferably within 2 kb of the target gene. Where modeling of the gene is intended, homology will usually be present proximal to the site of the mutation. By gene is intended the coding region and those sequences required for transcription of a mature mRNA. The homologous DNA may include the 5'-upstream region outside of the transcriptional regulatory region or comprising any enhancer sequences, transcriptional initiation sequences, adjacent sequences, or the like. The homologous region may include a portion of the coding region, where the coding region may be comprised only of an open reading frame or combination of exons and introns. The homologous region may comprise all or a portion of an

intron, where all or a portion of one or more exons may also be present. Alternatively, the homologous region may comprise the 3'-region, so as to comprise all or a portion of the transcriptional termination region, or the region 3' of this region. The homologous regions may extend over all or a portion of the target gene or be outside the target gene comprising all or a portion of the transcriptional regulatory regions and/or the structural gene.

The integrating constructs may be prepared in accordance with conventional ways, where sequences may be synthesized, isolated from natural sources, manipulated, cloned, ligated, subjected to in vitro mutagenesis, primer repair, or the like. At various stages, the joined sequences may be cloned, and analyzed by restriction analysis, sequencing, or the like. Usually during the preparation of a construct where various fragments are joined, the fragments, intermediate constructs and constructs will be carried on a cloning vector comprising a replication system functional in a prokaryotic host, e.g., *E. coli*, and a marker for selection, e.g., biocide resistance, complementation to an auxotrophic host, etc. Other functional sequences may also be present, such as polylinkers, for ease of introduction and excision of the construct or portions thereof, or the like. A large number of cloning vectors are available such as pBR322, the pUC series, etc. These constructs may then be used for integration into the primary mammalian host.

In the case of the primary mammalian host, a replicating vector may be used. Usually, such vector will have a viral replication system, such as SV40, bovine papilloma virus, adenovirus, or the like. The linear DNA sequence vector may also have a selectable marker for identifying transfected cells. Selectable markers include the neo gene, allowing for selection with G418, the herpes tk gene for selection with HAT medium, the gpt gene with mycophenolic acid, complementation of an auxotrophic host, etc.



The vector may or may not be capable of stable maintenance in the host. Where the vector is capable of stable maintenance, the cells will be screened for homologous integration of the vector into the genome of the host, where various techniques for curing the cells may be employed. Where the vector is not capable of stable maintenance, for example, where a temperature sensitive replication system is employed, one may change the temperature from the permissive temperature to the non-permissive temperature, so that the cells may be cured of the vector. In this case, only those cells having integration of the construct comprising the amplifiable gene and, when present, the selectable marker, will be able to survive selection.

Where a selectable marker is present, one may select for the presence of the targeting construct by means of the selectable marker. Where the selectable marker is not present, one may select for the presence of the construct by the amplifiable gene. For the neo gene or the herpes tk gene, one could employ a medium for growth of the transformants of about 0.1-1 mg/ml of G418 or may use HAT medium, respectively. Where DHFR is the amplifiable gene, the selective medium may include from about 0.01-0.5  $\mu$ M of methotrexate or be deficient in glycine-hypoxanthine-thymidine and have dialysed serum (GHT media).

The DNA can be introduced into the expression host by a variety of techniques that include calcium phosphate/DNA co-precipitates, microinjection of DNA into the nucleus, electroporation, yeast protoplast fusion with intact cells, transfection, polycations, e.g., polybrene, polyornithine, etc., or the like. The DNA may be single or double stranded DNA, linear or circular. The various techniques for transforming mammalian cells are well known (see Keown *et al.*, *Methods Enzymol.* (1989), Keown *et al.*, *Methods Enzymol.* 185:527-537 (1990); Mansour *et al.*, *Nature* 336:348-352, (1988); all of which are herein incorporated by reference in their entirety).

### (h) Insect Constructs and Transformed Insect Cells

The present invention also relates to an insect recombinant expression vectors comprising exogenous genetic material. The present invention also relates to an insect cell comprising an insect recombinant vector. The present invention also relates to methods for obtaining a

5 recombinant insect host cell, comprising introducing into an insect cell exogenous genetic material.

The insect recombinant vector may be any vector which can be conveniently subjected to recombinant DNA procedures and can bring about the expression of the nucleic acid sequence. The choice of a vector will typically depend on the compatibility of the vector with the insect

10 host cell into which the vector is to be introduced. The vector may be a linear or a closed circular plasmid. The vector system may be a single vector or plasmid or two or more vectors or plasmids which together contain the total DNA to be introduced into the genome of the insect host. In addition, the insect vector may be an expression vector. Nucleic acid molecules can be suitable inserted into a replication vector for expression in the insect cell under a suitable

15 promoter for insect cells. Many vectors are available for this purpose, and selection of the appropriate vector will depend mainly on the size of the nucleic acid molecule to be inserted into the vector and the particular host cell to be transformed with the vector. Each vector contains various components depending on its function (amplification of DNA or expression of DNA) and the particular host cell with which it is compatible. The vector components for insect cell

20 transformation generally include, but not limited to, one or more of the following: a signal sequence, and origin of replication, one or more marker genes, and an inducible promoter.

The insect vector may be an autonomously replicating vector, *i.e.*, a vector which exists as an extrachromosomal entity, the replication of which is independent of chromosomal

replication, *e.g.*, a plasmid, an extrachromosomal element, a minichromosome, or an artificial chromosome. The vector may contain any means for assuring self-replication. Alternatively, the vector may be one which, when introduced into the insect cell, is integrated into the genome and replicated together with the chromosome(s) into which it has been integrated. For integration, the vector may rely on the nucleic acid sequence of the vector for stable integration of the vector into the genome by homologous or nonhomologous recombination. Alternatively, the vector may contain additional nucleic acid sequences for directing integration by homologous recombination into the genome of the insect host. The additional nucleic acid sequences enable the vector to be integrated into the host cell genome at a precise location(s) in the chromosome(s). To increase the likelihood of integration at a precise location, there should be preferably two nucleic acid sequences which individually contain a sufficient number of nucleic acids, preferably 400 bp to 1500 bp, more preferably 800 bp to 1000 bp, which are highly homologous with the corresponding target sequence to enhance the probability of homologous recombination. These nucleic acid sequences may be any sequence that is homologous with a target sequence in the genome of the insect host cell, and, furthermore, may be non-encoding or encoding sequences.

Baculovirus expression vectors (BEVs) have become important tools for the expression of foreign genes, both for basic research and for the production of proteins with direct clinical applications in human and veterinary medicine (Doerfler, *Curr. Top. Microbiol. Immunol.* 131: 51-68 (1968); Luckow and Summers, *Bio/Technology* 6: 47-55 (1988a); Miller, *Annual Review of Microbiol.* 42: 177-199 (1988); Summers, *Curr. Comm. Molecular Biology*, Cold Spring Harbor Press, Cold Spring Harbor, N.Y. (1988); all of which are herein incorporated by reference in their entirety). BEVs are recombinant insect viruses in which the coding sequence for a

chosen foreign gene has been inserted behind a baculovirus promoter in place of the viral gene, e.g., polyhedrin (Smith and Summers, U.S. Pat. No., 4,745,051, herein incorporated by reference in its entirety).

The use of baculovirus vectors relies upon the host cells being derived from *Lepidopteran* insects such as *Spodoptera frugiperda* or *Trichoplusia ni*. The preferred *Spodoptera frugiperda* cell line is the cell line Sf9. The *Spodoptera frugiperda* Sf9 cell line was obtained from American Type Culture Collection (Manassas, VA.) and is assigned accession number ATCC CRL 1711 (Summers and Smith, *A Manual of Methods for Baculovirus Vectors and Insect Cell Culture Procedures*, Texas Ag. Exper. Station Bulletin No. 1555 (1988), herein incorporated by reference in its entirety). Other insect cell systems, such as the silkworm *B. mori* may also be used.

The proteins expressed by the BEVs are, therefore, synthesized, modified and transported in host cells derived from *Lepidopteran* insects. Most of the genes that have been inserted and produced in the baculovirus expression vector system have been derived from vertebrate species. Other baculovirus genes in addition to the polyhedrin promoter may be employed to advantage in a baculovirus expression system. These include immediate-early (alpha), delayed-early (beta), late (gamma), or very late (delta), according to the phase of the viral infection during which they are expressed. The expression of these genes occurs sequentially, probably as the result of a "cascade" mechanism of transcriptional regulation. (Guarino and Summers, *J. Virol.* 57:563-571 (1986); Guarino and Summers, *J. Virol.* 61:2091-2099 (1987); Guarino and Summers, *Virol.* 162:444-451 (1988); all of which are herein incorporated by reference in their entirety).

Insect recombinant vectors are useful as intermediates for the infection or transformation of insect cell systems. For example, an insect recombinant vector containing a

nucleic acid molecule encoding a baculovirus transcriptional promoter followed downstream by an insect signal DNA sequence is capable of directing the secretion of the desired biologically active protein from the insect cell. The vector may utilize a baculovirus transcriptional promoter region derived from any of the over 500 baculoviruses generally infecting insects, such as for example the Orders *Lepidoptera*, *Diptera*, *Orthoptera*, *Coleoptera* and *Hymenoptera*, including for example but not limited to the viral DNAs of *Autographa californica* MNPV, *Bombyx mori* NPV, *Trichoplusia ni* MNPV, *Rachiplusia ou* MNPV, or *Galleria mellonella* MNPV, wherein said baculovirus transcriptional promoter is a baculovirus immediate-early gene IEL or IEN promoter; an immediate-early gene in combination with a baculovirus delayed-early gene promoter region selected from the group consisting of 39K and a *HindIII-k* fragment delayed-early gene; or a baculovirus late gene promoter. The immediate-early or delayed-early promoters can be enhanced with transcriptional enhancer elements. The insect signal DNA sequence may code for a signal peptide of a *Lepidopteran* adipokinetic hormone precursor or a signal peptide of the *Manduca sexta* adipokinetic hormone precursor (Summers, U.S. Patent No. 5,155,037; herein incorporated by reference in its entirety). Other insect signal DNA sequences include a signal peptide of the *Orthoptera Schistocerca gregaria* locust adipokinetic hormone precursor and the *Drosophila melanogaster* cuticle genes CP1, CP2, CP3 or CP4 or for an insect signal peptide having substantially a similar chemical composition and function (Summers, U.S. Patent No. 5,155,037).

Insect cells are distinctly different from animal cells. Insects have a unique life cycle and have distinct cellular properties such as the lack of intracellular plasminogen activators in insect cells which are present in vertebrate cells. Another difference is the high expression levels of protein products ranging from 1 to greater than 500 mg/liter and the ease at which cDNA can be

cloned into cells (Frasier, *In Vitro Cell. Dev. Biol.* 25:225 (1989); Summers and Smith, In: *A Manual of Methods for Baculovirus Vectors and Insect Cell Culture Procedures*, Texas Ag. Exper. Station Bulletin No. 1555 (1988), both of which are incorporated by reference in their entirety).

5           Recombinant protein expression in insect cells is achieved by viral infection or stable transformation. For viral infection, the desired gene is cloned into baculovirus at the site of the wild-type polyhedron gene (Webb and Summers, *Technique* 2:173 (1990); Bishop and Posse, *Adv. Gene Technol.* 1:55 (1990); both of which are incorporated by reference in their entirety). The polyhedron gene is a component of a protein coat in occlusions which encapsulate virus  
10 particles. Deletion or insertion in the polyhedron gene results the failure to form occlusion bodies. Occlusion negative viruses are morphologically different from occlusion positive viruses and enable one skilled in the art to identify and purify recombinant viruses.

          The vectors of present invention preferably contain one or more selectable markers which permit easy selection of transformed cells. A selectable marker is a gene the product of which  
15 provides, for example biocide or viral resistance, resistance to heavy metals, prototrophy to auxotrophs, and the like. Selection may be accomplished by co-transformation, *e.g.*, as described in WO 91/17243, a nucleic acid sequence of the present invention may be operably linked to a suitable promoter sequence. The promoter sequence is a nucleic acid sequence which is recognized by the insect host cell for expression of the nucleic acid sequence. The promoter  
20 sequence contains transcription and translation control sequences which mediate the expression of the protein or fragment thereof. The promoter may be any nucleic acid sequence which shows transcriptional activity in the insect host cell of choice and may be obtained from genes encoding polypeptides either homologous or heterologous to the host cell.

For example, a nucleic acid molecule encoding a *Cyanidium caldarium* protein homologue or fragment thereof may also be operably linked to a suitable leader sequence. A leader sequence is a nontranslated region of a mRNA which is important for translation by the insect host. The leader sequence is operably linked to the 5' terminus of the nucleic acid sequence encoding the protein or fragment thereof. The leader sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any leader sequence which is functional in the insect host cell of choice may be used in the present invention.

A polyadenylation sequence may also be operably linked to the 3' terminus of the nucleic acid sequence of the present invention. The polyadenylation sequence is a sequence which when transcribed is recognized by the insect host to add polyadenosine residues to transcribed mRNA. The polyadenylation sequence may be native to the nucleic acid sequence encoding the protein or fragment thereof or may be obtained from foreign sources. Any polyadenylation sequence which is functional in the fungal host of choice may be used in the present invention.

To avoid the necessity of disrupting the cell to obtain the protein or fragment thereof, and to minimize the amount of possible degradation of the expressed polypeptide within the cell, it is preferred that expression of the polypeptide gene gives rise to a product secreted outside the cell. To this end, the protein or fragment thereof of the present invention may be linked to a signal peptide linked to the amino terminus of the protein or fragment thereof. A signal peptide is an amino acid sequence which permits the secretion of the protein or fragment thereof from the insect host into the culture medium. The signal peptide may be native to the protein or fragment thereof of the invention or may be obtained from foreign sources. The 5' end of the coding sequence of the nucleic acid sequence of the present invention may inherently contain a signal

peptide coding region naturally linked in translation reading frame with the segment of the coding region which encodes the secreted protein or fragment thereof.

At present, a mode of achieving secretion of a foreign gene product in insect cells is by way of the foreign gene's native signal peptide. Because the foreign genes are usually from non-insect organisms, their signal sequences may be poorly recognized by insect cells, and hence, levels of expression may be suboptimal. However, the efficiency of expression of foreign gene products seems to depend primarily on the characteristics of the foreign protein. On average, nuclear localized or non-structural proteins are most highly expressed, secreted proteins are intermediate, and integral membrane proteins are the least expressed. One factor generally affecting the efficiency of the production of foreign gene products in a heterologous host system is the presence of native signal sequences (also termed presequences, targeting signals, or leader sequences) associated with the foreign gene. The signal sequence is generally coded by a DNA sequence immediately following (5' to 3') the translation start site of the desired foreign gene.

The expression dependence on the type of signal sequence associated with a gene product can be represented by the following example: If a foreign gene is inserted at a site downstream from the translational start site of the baculovirus polyhedrin gene so as to produce a fusion protein (containing the N-terminus of the polyhedrin structural gene), the fused gene is highly expressed. But less expression is achieved when a foreign gene is inserted in a baculovirus expression vector immediately following the transcriptional start site and totally replacing the polyhedrin structural gene.

Insertions into the region -50 to -1 significantly alter (reduce) steady state transcription which, in turn, reduces translation of the foreign gene product. Use of the pVL941 vector optimizes transcription of foreign genes to the level of the polyhedrin gene transcription. Even



though the transcription of a foreign gene may be optimal, optimal translation may vary because of several factors involving processing: signal peptide recognition, mRNA and ribosome binding, glycosylation, disulfide bond formation, sugar processing, oligomerization, for example.

The properties of the insect signal peptide are expected to be more optimal for the efficiency of the translation process in insect cells than those from vertebrate proteins. This phenomenon can generally be explained by the fact that proteins secreted from cells are synthesized as precursor molecules containing hydrophobic N-terminal signal peptides. The signal peptides direct transport of the select protein to its target membrane and are then cleaved by a peptidase on the membrane, such as the endoplasmic reticulum, when the protein passes through it.

Another exemplary insect signal sequence is the sequence encoding for *Drosophila* cuticle proteins such as CP1, CP2, CP3 or CP4 (Summers, U.S. Patent No. 5,278,050; herein incorporated by reference in its entirety). Most of the 9kb region of the *Drosophila* genome contains genes for the cuticle proteins has been sequenced. Four of the five cuticle genes contain a signal peptide coding sequence interrupted by a short intervening sequence (about 60 base pairs) at a conserved site. Conserved sequences occur in the 5' mRNA untranslated region, in the adjacent 35 base pairs of upstream flanking sequence and at -200 base pairs from the mRNA start position in each of the cuticle genes.

Standard methods of insect cell culture, cotransfection and preparation of plasmids are set forth in Summers and Smith (Summers and Smith, *A Manual of Methods for Baculovirus Vectors and Insect Cell Culture Procedures*, Texas Agricultural Experiment Station Bulletin No. 1555, Texas A&M University (1987)). Procedures for the cultivation of viruses and cells are

described in Volkman and Summers, *J. Virol* 19: 820-832 (1975) and Volkman *et al.*, *J. Virol* 19: 820-832 (1976); both of which are herein incorporated by reference in their entirety.

**(i) Bacterial Constructs and Transformed Bacterial Cells**

The present invention also relates to a bacterial recombinant vector comprising  
 5 exogenous genetic material. The present invention also relates to a bacteria cell comprising a bacterial recombinant vector. The present invention also relates to methods for obtaining a recombinant bacteria host cell, comprising introducing into a bacterial host cell exogenous genetic material.

The bacterial recombinant vector may be any vector which can be conveniently subjected  
 10 to recombinant DNA procedures. The choice of a vector will typically depend on the compatibility of the vector with the bacterial host cell into which the vector is to be introduced. The vector may be a linear or a closed circular plasmid. The vector system may be a single vector or plasmid or two or more vectors or plasmids which together contain the total DNA to be introduced into the genome of the bacterial host. In addition, the bacterial vector may be an  
 15 expression vector. Nucleic acid molecules encoding *Cyanidium caldarium* protein homologues or fragments thereof can, for example, be suitably inserted into a replicable vector for expression in the bacterium under the control of a suitable promoter for bacteria. Many vectors are available for this purpose, and selection of the appropriate vector will depend mainly on the size of the nucleic acid to be inserted into the vector and the particular host cell to be transformed with the  
 20 vector. Each vector contains various components depending on its function (amplification of DNA or expression of DNA) and the particular host cell with which it is compatible. The vector components for bacterial transformation generally include, but are not limited to, one or more of

the following: a signal sequence, an origin of replication, one or more marker genes, and an inducible promoter.

In general, plasmid vectors containing replicon and control sequences that are derived from species compatible with the host cell are used in connection with bacterial hosts. The vector ordinarily carries a replication site, as well as marking sequences that are capable of providing phenotypic selection in transformed cells. For example, *E. coli* is typically transformed using pBR322, a plasmid derived from an *E. coli* species (see, e.g., Bolivar *et al.*, *Gene* 2: 95 (1977); herein incorporated by reference in its entirety). pBR322 contains genes for ampicillin and tetracycline resistance and thus provides easy means for identifying transformed cells. The pBR322 plasmid, or other microbial plasmid or phage, also generally contains, or is modified to contain, promoters that can be used by the microbial organism for expression of the selectable marker genes.

Nucleic acid molecules encoding *Cyanidium caldarium* protein homologues or fragments thereof may be expressed not only directly, but also as a fusion with another polypeptide, preferably a signal sequence or other polypeptide having a specific cleavage site at the N-terminus of the mature polypeptide. In general, the signal sequence may be a component of the vector, or it may be a part of the polypeptide DNA that is inserted into the vector. The heterologous signal sequence selected should be one that is recognized and processed (i.e., cleaved by a signal peptidase) by the host cell. For bacterial host cells that do not recognize and process the native polypeptide signal sequence, the signal sequence is substituted by a bacterial signal sequence selected, for example, from the group consisting of the alkaline phosphatase, penicillinase, lpp, or heat-stable enterotoxin II leaders.

Both expression and cloning vectors contain a nucleic acid sequence that enables the vector to replicate in one or more selected host cells. Generally, in cloning vectors this sequence is one that enables the vector to replicate independently of the host chromosomal DNA, and includes origins of replication or autonomously replicating sequences. Such sequences are well known for a variety of bacteria. The origin of replication from the plasmid pBR322 is suitable for most Gram-negative bacteria.

Expression and cloning vectors also generally contain a selection gene, also termed a selectable marker. This gene encodes a protein necessary for the survival or growth of transformed host cells grown in a selective culture medium. Host cells not transformed with the vector containing the selection gene will not survive in the culture medium. Typical selection genes encode proteins that (a) confer resistance to antibiotics or other toxins, e.g., ampicillin, neomycin, methotrexate, or tetracycline, (b) complement auxotrophic deficiencies, or (c) supply critical nutrients not available from complex media, e.g., the gene encoding D-alanine racemase for *Bacilli*. One example of a selection scheme utilizes a drug to arrest growth of a host cell. Those cells that are successfully transformed with a heterologous gene homologue or fragment thereof produce a protein conferring drug resistance and thus survive the selection regimen.

The expression vector for producing a polypeptide can also contains an inducible promoter that is recognized by the host bacterial organism and is operably linked to the nucleic acid encoding, for example, a *Cyanidium caldarium* protein homologue or fragment thereof of interest. Inducible promoters suitable for use with bacterial hosts include the beta -lactamase and lactose promoter systems (Chang *et al.*, *Nature* 275: 615 (1978); Goeddel *et al.*, *Nature* 281: 544 (1979); both of which are herein incorporated by reference in their entirety), the arabinose promoter system (Guzman *et al.*, *J. Bacteriol.* 174: 7716-7728 (1992); herein incorporated by

reference in its entirety), alkaline phosphatase, a tryptophan (trp) promoter system (Goeddel, *Nucleic Acids Res.* 8: 4057 (1980); EP 36,776; both of which are herein incorporated by reference in their entirety) and hybrid promoters such as the tac promoter (deBoer *et al.*, *Proc. Natl. Acad. Sci. USA* 80: 21-25 (1983); herein incorporated by reference in its entirety).

- 5 However, other known bacterial inducible promoters are suitable (Siebenlist *et al.*, *Cell* 20:269 (1980); herein incorporated by reference in its entirety).

Promoters for use in bacterial systems also generally contain a Shine-Dalgarno (S.D.) sequence operably linked to the DNA encoding the polypeptide of interest. The promoter can be removed from the bacterial source DNA by restriction enzyme digestion and inserted into the  
 10 vector containing the desired DNA.

Construction of suitable vectors containing one or more of the above-listed components employs standard ligation techniques. Isolated plasmids or DNA fragments are cleaved, tailored, and re-ligated in the form desired to generate the plasmids required. Examples of available bacterial expression vectors include, but are not limited to, the multifunctional *E. coli* cloning  
 15 and expression vectors such as Bluescript Registered TM (Stratagene, La Jolla, CA), in which, for example, encoding a *Cyanidium caldarium* protein homologue or fragment thereof, may be ligated into the vector in frame with sequences for the amino-terminal Met and the subsequent 7 residues of beta -galactosidase so that a hybrid protein is produced; pIN vectors (Van Heeke and Schuster *J. Biol. Chem.* 264: 5503-5509 (1989). Herein incorporated by reference in its entirety);  
 20 and the like. pGEX vectors (Promega, Madison Wis.) may also be used to express foreign polypeptides as fusion proteins with glutathione S-transferase (GST). In general, such fusion proteins are soluble and can easily be purified from lysed cells by adsorption to glutathione-agarose beads followed by elution in the presence of free glutathione. Proteins made in such

systems are designed to include heparin, thrombin or factor XA protease cleavage sites so that the cloned polypeptide of interest can be released from the GST moiety at will.

Suitable host bacteria for a bacterial vector include archaeobacteria and eubacteria, especially eubacteria, and most preferably *Enterobacteriaceae*. Examples of useful bacteria include *Escherichia*, *Enterobacter*, *Azotobacter*, *Erwinia*, *Bacillus*, *Pseudomonas*, *Klebsiella*, *Proteus*, *Salmonella*, *Serratia*, *Shigella*, *Rhizobia*, *Vitreoscilla*, and *Paracoccus*. Suitable *E. coli* hosts include *E. coli* W3110 (American Type Culture Collection (ATCC), Manassas, VA) 27,325), *E. coli* 294 (ATCC 31,446), *E. coli* B, and *E. coli* X1776 (ATCC 31,537). These examples are illustrative rather than limiting. Mutant cells of any of the above-mentioned bacteria may also be employed. It is, of course, necessary to select the appropriate bacteria taking into consideration replicability of the replicon in the cells of a bacterium. For example, *E. coli*, *Serratia*, or *Salmonella* species can be suitably used as the host when well known plasmids such as pBR322, pBR325, pACYC177, or pKN410 are used to supply the replicon. *E. coli* strain W3110 is a preferred host or parent host because it is a common host strain for recombinant DNA product fermentations. Preferably, the host cell should secrete minimal amounts of proteolytic enzymes.

Host cells are transfected and preferably transformed with the above-described vectors and cultured in conventional nutrient media modified as appropriate for inducing promoters, selecting transformants, or amplifying the genes encoding the desired sequences.

Numerous methods of transfection are known to the ordinarily skilled artisan, for example, calcium phosphate and electroporation. Depending on the host cell used, transformation is done using standard techniques appropriate to such cells. The calcium

treatment employing calcium chloride, as described in section 1.82 of Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, New York: Cold Spring Harbor Laboratory Press, (1989), is generally used for bacterial cells that contain substantial cell-wall barriers. Another method for transformation employs polyethylene glycol/DMSO, as described in Chung and Miller (Chung and Miller, *Nucleic Acids Res.* 16: 3580 (1988); herein incorporated by reference in its entirety). Yet another method is the use of the technique termed electroporation.

Bacterial cells used to produce the polypeptide of interest for purposes of this invention are cultured in suitable media in which the promoters for the nucleic acid encoding the heterologous polypeptide can be artificially induced as described generally, e.g., in Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, New York: Cold Spring Harbor Laboratory Press, (1989). Examples of suitable media are given in U.S. Pat. Nos. 5,304,472 and 5,342,763; both of which are incorporated by reference in their entirety.

#### **(j) Computer Media**

The nucleotide sequence provided in SEQ ID NO:1, through SEQ ID NO:5674 or fragment thereof, or complement thereof, or a nucleotide sequence at least 90% identical, preferably 95%, identical even more preferably 99% or 100% identical to the sequence provided in SEQ ID NO:1 through SEQ ID NO:5674 or fragment thereof, or complement thereof, can be "provided" in a variety of mediums to facilitate use. Such a medium can also provide a subset thereof in a form that allows a skilled artisan to examine the sequences.

In one application of this embodiment, a nucleotide sequence of the present invention can be recorded on computer readable media. As used herein, "computer readable media" refers to any medium that can be read and accessed directly by a computer. Such media include, but are

not limited to: magnetic storage media, such as floppy discs, hard disc, storage medium, and magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. A skilled artisan can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising computer readable medium having recorded thereon a nucleotide sequence of the present invention.

As used herein, "recorded" refers to a process for storing information on computer readable medium. A skilled artisan can readily adopt any of the presently known methods for recording information on computer readable medium to generate media comprising the nucleotide sequence information of the present invention. A variety of data storage structures are available to a skilled artisan for creating a computer readable medium having recorded thereon a nucleotide sequence of the present invention. The choice of the data storage structure will generally be based on the means chosen to access the stored information. In addition, a variety of data processor programs and formats can be used to store the nucleotide sequence information of the present invention on computer readable medium. The sequence information can be represented in a word processing text file, formatted in commercially-available software such as WordPerfect and Microsoft Word., or represented in the form of an ASCII file, stored in a database application, such as DB2, Sybase, Oracle, or the like. A skilled artisan can readily adapt any number of data processor structuring formats (e.g. text file or database) in order to obtain computer readable medium having recorded thereon the nucleotide sequence information of the present invention.

By providing one or more of nucleotide sequences of the present invention, a skilled artisan can routinely access the sequence information for a variety of purposes. Computer



software is publicly available which allows a skilled artisan to access sequence information provided in a computer readable medium. The examples which follow demonstrate how software which implements the BLAST (Altschul *et al.*, *J. Mol. Biol.* 215: 403-410 (1990), herein incorporated by reference in its entirety) and BLAZE (Brutlag, *et al.*, *Comp. Chem.* 17: 203-207 (1993), herein incorporated by reference in its entirety) search algorithms on a Sybase system can be used to identify open reading frames (ORFs) within the genome that contain homology to ORFs or proteins from other organisms. Such ORFs are protein-encoding fragments within the sequences of the present invention and are useful in producing commercially important proteins such as enzymes used in amino acid biosynthesis, metabolism, transcription, translation, RNA processing, nucleic acid and a protein degradation, protein modification, and DNA replication, restriction, modification, recombination, and repair.

The present invention further provides systems, particularly computer-based systems, which contain the sequence information described herein. Such systems are designed to identify commercially important fragments of the nucleic acid molecule of the present invention. As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware means of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based system are suitable for use in the present invention.

As indicated above, the computer-based systems of the present invention comprise a data storage means having stored therein a nucleotide sequence of the present invention and the necessary hardware means and software means for supporting and implementing a search means.

As used herein, "data storage means" refers to memory that can store nucleotide sequence information of the present invention, or a memory access means which can access manufactures having recorded thereon the nucleotide sequence information of the present invention. As used herein, "search means" refers to one or more programs which are implemented on the computer-based system to compare a target sequence or target structural motif with the sequence information stored within the data storage means. Search means are used to identify fragments or regions of the sequence of the present invention that match a particular target sequence or target motif. A variety of known algorithms are disclosed publicly and a variety of commercially available software for conducting search means are available can be used in the computer-based systems of the present invention. Examples of such software include, but are not limited to, MacPattern (EMBL), BLASTIN and BLASTIX (NCBIA). One of the available algorithms or implementing software packages for conducting homology searches can be adapted for use in the present computer-based systems.

The most preferred sequence length of a target sequence is from about 10 to 100 amino acids or from about 30 to 300 nucleotide residues. However, it is well recognized that during searches for commercially important fragments of the nucleic acid molecules of the present invention, such as sequence fragments involved in gene expression and protein processing, may be of shorter length.

As used herein, "a target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequences the sequence(s) are chosen based on a three-dimensional configuration which is formed upon the folding of the target motif. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzymatic active sites and signal sequences. Nucleic acid target motifs include,

but are not limited to, promoter sequences, cis elements, hairpin structures and inducible expression elements (protein binding sequences).

Thus, the present invention further provides an input means for receiving a target sequence, a data storage means for storing the target sequences of the present invention sequence  
 5 identified using a search means as described above, and an output means for outputting the identified homologous sequences. A variety of structural formats for the input and output means can be used to input and output information in the computer-based systems of the present invention. A preferred format for an output means ranks fragments of the sequence of the present invention by varying degrees of homology to the target sequence or target motif. Such  
 10 presentation provides a skilled artisan with a ranking of sequences which contain various amounts of the target sequence or target motif and identifies the degree of homology contained in the identified fragment.

A variety of comparing means can be used to compare a target sequence or target motif with the data storage means to identify sequence fragments sequence of the present invention.

15 For example, implementing software which implement the BLAST and BLAZE algorithms (Altschul *et al.*, *J. Mol. Biol.* 215: 403-410 (1990), herein incorporated by reference in its entirety) can be used to identify open frames within the nucleic acid molecules of the present invention. A skilled artisan can readily recognize that any one of the publicly available homology search programs can be used as the search means for the computer-based systems of  
 20 the present invention.

### **Uses of the Agents of the Present Invention**

Nucleic acid molecules and fragments thereof of the present invention may be employed to obtain other nucleic acid molecules from the same species. Such nucleic acid molecules include the nucleic acid molecules that encode the complete coding sequence of a protein and promoters and flanking sequences of such molecules. In addition, such nucleic acid molecules include nucleic acid molecules that encode for other isozymes or gene family members. Such molecules can be readily obtained by using the above-described nucleic acid molecules or fragments thereof to screen cDNA or genomic libraries obtained from *Cyanidium caldarium*. Methods for forming such libraries are well known in the art.

Nucleic acid molecules and fragments thereof of the present invention may also be employed to obtain other nucleic acid molecules such as nucleic acid homologues. Such homologues include the nucleic acid molecules that encode, in whole or in part, protein homologues of other species, plants or other organisms. Such molecules can be readily obtained by using the above-described nucleic acid molecules or fragments thereof to screen cDNA or genomic libraries. Methods for forming such libraries are well known in the art. Such homologue molecules may differ in their nucleotide sequences from those found in one or more of SEQ ID NO:1 through SEQ ID NO:5674 or complements thereof because complete complementarity is not needed for stable hybridization. The nucleic acid molecules of the present invention therefore also include molecules that, although capable of specifically hybridizing with the nucleic acid molecules may lack "complete complementarity." In a particular embodiment, methods or 3' or 5' RACE may be used to obtain such sequences (Frohman, M.A. *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 85:8998-9002 (1988); Ohara, O. *et al.*,

*Proc. Natl. Acad. Sci. (U.S.A.)* 86:5673-5677 (1989), both of which are herein incorporated by reference in their entirety).

Any of a variety of methods may be used to obtain one or more of the above-described nucleic acid molecules (Zamechik *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 83: 4143-4146 (1986); Goodchild *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 85: 5507-5511 (1988); Wickstrom *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 85: 1028-1032 (1988); Holt *et al.*, *Molec. Cell. Biol.* 8: 963-973 (1988); Gerwitz *et al.*, *Science* 242: 1303-1306 (1988); Anfossi *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 86: 3379-3383 (1989); Becker *et al.*, *EMBO J.* 8: 3685-3691 (1989); all of which are herein incorporated by reference in their entirety). Automated nucleic acid synthesizers may be employed for this purpose. In lieu of such synthesis, the disclosed nucleic acid molecules may be used to define a pair of primers that can be used with the polymerase chain reaction (Mullis *et al.*, *Cold Spring Harbor Symp. Quant. Biol.* 51: 263-273 (1986); Erlich *et al.*, European Patent 50,424; European Patent 84,796, European Patent 258,017, European Patent 237,362; Mullis, European Patent 201,184; Mullis *et al.*, U.S. Patent 4,683,202; Erlich, U.S. Patent 4,582,788; and Saiki, R. *et al.*, U.S. Patent 4,683,194, all of which are herein incorporated by reference in their entirety) to amplify and obtain any desired nucleic acid molecule or fragment.

Promoter sequence(s) and other genetic elements including but not limited to transcriptional regulatory elements associated with one or more of the disclosed nucleic acid sequences can also be obtained using the disclosed nucleic acid sequences provided herein. In one embodiment, such sequences are obtained by incubating EST nucleic acid molecules or preferably fragments thereof with members of genomic libraries and recovering clones that hybridize to the EST nucleic acid molecule or fragment thereof. In a second embodiment,

methods of "chromosome walking," or inverse PCR may be used to obtain such sequences (Frohman, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 85:8998-9002 (1988); Ohara, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 86: 5673-5677 (1989); Pang *et al.*, *Biotechniques*, 22(6); 1046-1048 (1977); Huang *et al.*, *Methods Mol. Biol.* 69: 89-96 (1977); Hartl *et al.*, *Methods Mol. Biol.* 58: 293-301 (1996), all of which are herein incorporated by reference in their entirety). In one embodiment, the disclosed ESTs are used to identify cDNAs whose analogous genes contain promoters with desirable expression patterns. Isolation and functional analysis of the 5' flanking promoter sequences of these genes from genomic libraries, for example, using genomic screening methods and PCR techniques would result in the isolation of useful promoters and transcriptional regulatory elements. These methods are known to those of skill in the art and have been described (See for example Birren *et al.*, *Genome Analysis: Analyzing DNA*, 1, (1997), Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y., herein incorporated by reference in its entirety). Promoters obtained utilizing the ESTs of the present invention could also be modified to affect their control characteristics. Examples of such modifications would include but are not limited to enhancer sequences as reported by Kay *et al.*, *Science* 236:1299 (1987), herein incorporated by reference in its entirety.

In an aspect of the present invention, one or more of the agents of the present invention may be used to detecting the presence, absence or level of a organism, preferably a red alga and more preferably unicellular red algae, and even more preferably *Cyanidium caldarium* in a sample. In another aspect of the present invention, one or more of the nucleic molecules of the present invention are used to determine the level (i.e., the concentration of mRNA in a sample, etc.) or pattern (i.e., the kinetics of expression, rate of decomposition, stability profile, etc.) of the expression encoded in part or whole by one or more of the nucleic acid molecule of the present

invention (collectively, the "Expression Response" of a cell or tissue). As used herein, the Expression Response manifested by a cell or tissue is said to be "altered" if it differs from the Expression Response of cells or tissues of organisms not exhibiting the phenotype. To determine whether a Expression Response is altered, the Expression Response manifested by the cell or

5 tissue of the organism exhibiting the phenotype is compared with that of a similar cell or tissue sample of a organism not exhibiting the phenotype. As will be appreciated, it is not necessary to re-determine the Expression Response of the cell or tissue sample of organisms not exhibiting the phenotype each time such a comparison is made; rather, the Expression Response of a particular organism may be compared with previously obtained values of normal organism. As

10 used herein, the phenotype of the organism is any of one or more characteristics of an organism.

In one sub-aspect, such an analysis is conducted by determining the presence and/or identity of polymorphism(s) by one or more of the nucleic acid molecules of the present invention and more specifically, one or more of the EST nucleic acid molecule or fragment thereof which are associated with phenotype, or a predisposition to phenotype.

15 Any of a variety of molecules can be used to identify such polymorphism(s). In one embodiment, one or more of the EST nucleic acid molecules (or a sub-fragment thereof) may be employed as a marker nucleic acid molecule to identify such polymorphism(s). Alternatively, such polymorphisms can be detected through the use of a marker nucleic acid molecule or a marker protein that is genetically linked to (i.e., a polynucleotide that co-segregates with) such

20 polymorphism(s).

In an alternative embodiment, such polymorphisms can be detected through the use of a marker nucleic acid molecule that is physically linked to such polymorphism(s). For this purpose, marker nucleic acid molecules comprising a nucleotide sequence of a polynucleotide

located within 1 mb of the polymorphism(s), and more preferably within 100 kb of the polymorphism(s), and most preferably within 10 kb of the polymorphism(s) can be employed.

The genomes of animals and plants naturally undergo spontaneous mutation in the course of their continuing evolution (Gusella, *Ann. Rev. Biochem.* 55:831-854 (1986), herein incorporated by reference in its entirety). A "polymorphism" is a variation or difference in the sequence of the gene or its flanking regions that arises in some of the members of a species. The variant sequence and the "original" sequence co-exist in the species' population. In some instances, such co-existence is in stable or quasi-stable equilibrium.

A polymorphism is thus said to be "allelic," in that, due to the existence of the polymorphism, some members of a species may have the original sequence (i.e., the original "allele") whereas other members may have the variant sequence (i.e., the variant "allele"). In the simplest case, only one variant sequence may exist, and the polymorphism is thus said to be di-allelic. In other cases, the species' population may contain multiple alleles, and the polymorphism is termed tri-allelic, etc. A single gene may have multiple different unrelated polymorphisms. For example, it may have a di-allelic polymorphism at one site, and a multi-allelic polymorphism at another site.

The variation that defines the polymorphism may range from a single nucleotide variation to the insertion or deletion of extended regions within a gene. In some cases, the DNA sequence variations are in regions of the genome that are characterized by short tandem repeats (STRs) that include tandem di- or tri-nucleotide repeated motifs of nucleotides. Polymorphisms characterized by such tandem repeats are referred to as "variable number tandem repeat" ("VNTR") polymorphisms. VNTRs have been used in identity analysis (Weber, U.S. Patent 5,075,217; Armour, *et al.*, *FEBS Lett.* 307:113-115 (1992); Jones, *et al.*, *Eur. J. Haematol.*



39:144-147 (1987); Horn, *et al.*, PCT Application WO91/14003; Jeffreys, European Patent Application 370,719; Jeffreys, U.S. Patent 5,175,082; Jeffreys. *et al.*, *Amer. J. Hum. Genet.* 39:11-24 (1986); Jeffreys. *et al.*, *Nature* 316:76-79 (1985); Gray, *et al.*, *Proc. R. Acad. Soc. Lond.* 243:241-253 (1991); Moore, *et al.*, *Genomics* 10:654-660 (1991); Jeffreys, *et al.*, *Anim. Genet.* 18:1-15 (1987); Hillel, *et al.*, *Anim. Genet.* 20:145-155 (1989); Hillel, *et al.*, *Genet.* 124:783-789 (1990), all of which are herein incorporated by reference in their entirety).

The detection of polymorphic sites in a sample of DNA may be facilitated through the use of nucleic acid amplification methods. Such methods specifically increase the concentration of polynucleotides that span the polymorphic site, or include that site and sequences located either distal or proximal to it. Such amplified molecules can be readily detected by gel electrophoresis or other means.

The most preferred method of achieving such amplification employs the polymerase chain reaction ("PCR") (Mullis, *et al.*, *Cold Spring Harbor Symp. Quant. Biol.* 51:263-273 (1986); Erlich, *et al.*, European Patent Appln. 50,424; European Patent Appln. 84,796, European Patent Application 258,017, European Patent Appln. 237,362; Mullis, European Patent Appln. 201,184; Mullis, *et al.*, U.S. Patent No. 4,683,202; Erlich., U.S. Patent No. 4,582,788; and Saiki, *et al.*, U.S. Patent No. 4,683,194, all of which are herein incorporated by reference in their entirety), using primer pairs that are capable of hybridizing to the proximal sequences that define a polymorphism in its double-stranded form.

In lieu of PCR, alternative methods, such as the "Ligase Chain Reaction" ("LCR") may be used (Barany, *Proc. Natl. Acad. Sci. (U.S.A.)* 88:189-193 (1991), herein incorporated by reference in its entirety). LCR uses two pairs of oligonucleotide probes to exponentially amplify a specific target. The sequences of each pair of oligonucleotides is selected to permit the pair to

hybridize to abutting sequences of the same strand of the target. Such hybridization forms a substrate for a template-dependent ligase. As with PCR, the resulting products thus serve as a template in subsequent cycles and an exponential amplification of the desired sequence is obtained.

5 LCR can be performed with oligonucleotides having the proximal and distal sequences of the same strand of a polymorphic site. In one embodiment, either oligonucleotide will be designed to include the actual polymorphic site of the polymorphism. In such an embodiment, the reaction conditions are selected such that the oligonucleotides can be ligated together only if the target molecule either contains or lacks the specific nucleotide that is complementary to the  
10 polymorphic site present on the oligonucleotide. Alternatively, the oligonucleotides may be selected such that they do not include the polymorphic site (see, Segev, PCT Application WO 90/01069, herein incorporated by reference in its entirety).

The "Oligonucleotide Ligation Assay" ("OLA") may alternatively be employed (Landegren, *et al.*, *Science* 241:1077-1080 (1988), herein incorporated by reference in its  
15 entirety). The OLA protocol uses two oligonucleotides which are designed to be capable of hybridizing to abutting sequences of a single strand of a target. OLA, like LCR, is particularly suited for the detection of point mutations. Unlike LCR, however, OLA results in "linear" rather than exponential amplification of the target sequence.

Nickerson, *et al.* have described a nucleic acid detection assay that combines attributes of  
20 PCR and OLA (Nickerson, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 87:8923-8927 (1990), herein incorporated by reference in its entirety). In this method, PCR is used to achieve the exponential amplification of target DNA, which is then detected using OLA. In addition to requiring

multiple, and separate, processing steps, one problem associated with such combinations is that they inherit all of the problems associated with PCR and OLA.

Schemes based on ligation of two (or more) oligonucleotides in the presence of nucleic acid having the sequence of the resulting "di-oligonucleotide", thereby amplifying the di-  
 5 oligonucleotide, are also known (Wu, *et al.*, *Genomics* 4:560 (1989), herein incorporated by reference in its entirety), and may be readily adapted to the purposes of the present invention.

Other known nucleic acid amplification procedures, such as allele-specific oligomers, branched DNA technology, transcription-based amplification systems, or isothermal amplification methods may also be used to amplify and analyze such polymorphisms (Malek, *et al.*, U.S. Patent 5,130,238; Davey, *et al.*, European Patent Application 329,822; Schuster *et al.*, U.S. Patent 5,169,766; Miller, *et al.*, PCT Application WO 89/06700; Kwoh, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 86:1173-1177 (1989); Gingeras, *et al.*, PCT Application WO 88/10315; Walker, *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 89:392-396 (1992), all of which are herein  
 10 incorporated by reference in their entirety).

The identification of a polymorphism can be determined in a variety of ways. By correlating the presence or absence of it in a plant with the presence or absence of a phenotype, it is possible to predict the phenotype of that plant. If a polymorphism creates or destroys a restriction endonuclease cleavage site, or if it results in the loss or insertion of DNA (e.g., a VNTR polymorphism), it will alter the size or profile of the DNA fragments that are generated  
 15 by digestion with that restriction endonuclease. As such, individuals that possess a variant sequence can be distinguished from those having the original sequence by restriction fragment analysis. Polymorphisms that can be identified in this manner are termed "restriction fragment length polymorphisms" ("RFLPs"). RFLPs have been widely used in human and plant genetic  
 20

analyses (Glassberg, UK Patent Application 2135774; Skolnick, *et al.*, *Cytogen. Cell Genet.* 32:58-67 (1982); Botstein, *et al.*, *Ann. J. Hum. Genet.* 32:314-331 (1980); Fischer, *et al.* PCT Application WO90/13668; Uhlen, PCT Application WO90/11369, all of which are herein incorporated by reference in their entirety).

5 Polymorphisms can also be identified by Single Strand Conformation Polymorphism (SSCP) analysis. The SSCP technique is a method capable of identifying most sequence variations in a single strand of DNA, typically between 150 and 250 nucleotides in length (Elles, *Methods in Molecular Medicine: Molecular Diagnosis of Genetic Diseases*, Humana Press (1996); Orita *et al.*, *Genomics* 5: 874-879 (1989), both of which are herein incorporated by  
10 reference in their entirety). Under denaturing conditions a single strand of DNA will adopt a conformation that is uniquely dependent on its sequence conformation. This conformation usually will be different, even if only a single base is changed. Most conformations have been reported to alter the physical configuration or size sufficiently to be detectable by  
15 electrophoresis. A number of protocols have been described for SSCP including, but not limited to Lee *et al.*, *Anal. Biochem.* 205: 289-293 (1992); Suzuki *et al.*, *Anal. Biochem.* 192: 82-84 (1991); Lo *et al.*, *Nucleic Acids Research* 20: 1005-1009 (1992); Sarkar *et al.*, *Genomics* 13: 441-443 (1992), all of which are herein incorporated by reference in their entirety). It is understood that one or more of the nucleic acids of the present invention, may be utilized as markers or probes to detect polymorphisms by SSCP analysis.

20 Polymorphisms may also be found using a DNA fingerprinting technique called amplified fragment length polymorphism (AFLP), which is based on the selective PCR amplification of restriction fragments from a total digest of genomic DNA to profile that DNA (Vos, *et al.*, *Nucleic Acids Res.* 23:4407-4414 (1995), herein incorporated by reference in its

entirety). This method allows for the specific co-amplification of high numbers of restriction fragments, which can be visualized by PCR without knowledge of the nucleic acid sequence.

AFLP employs basically three steps. Initially, a sample of genomic DNA is cut with restriction enzymes and oligonucleotide adapters are ligated to the restriction fragments of the DNA. The restriction fragments are then amplified using PCR by using the adapter and restriction sequence as target sites for primer annealing. The selective amplification is achieved by the use of primers that extend into the restriction fragments, amplifying only those fragments in which the primer extensions match the nucleotide flanking the restriction sites. These amplified fragments are then visualized on a denaturing polyacrylamide gel.

AFLP analysis has been performed on *Salix* (Beismann, *et al.*, *Mol. Ecol.* 6:989-993 (1997); *Acinetobacter* (Janssen, *et al.*, *Int. J. Syst. Bacteriol* 47:1179-1187 (1997), both of which are herein incorporated by reference in their entirety), *Aeromonas popoffi* (Huys, *et al.*, *Int. J. Syst. Bacteriol.* 47:1165-1171 (1997), herein incorporated by reference in its entirety), rice (McCouch, *et al.*, *Plant Mol. Biol.* 35:89-99 (1997); Nandi, *et al.*, *Mol. Gen. Genet.* 255:1-8 (1997); Cho, *et al.*, *Genome* 39:373-378 (1996), all of which are herein incorporated by reference in their entirety), barley (*Hordeum vulgare*) (Simons, *et al.*, *Genomics* 44:61-70 (1997); Waugh, *et al.*, *Mol. Gen. Genet.* 255:311-321 (1997); Qi, *et al.*, *Mol. Gen. Genet.* 254:330-336 (1997); Becker, *et al.*, *Mol. Gen. Genet.* 249:65-73 (1995), all of which are herein incorporated by reference in their entirety), potato (Van der Voort, *et al.*, *Mol. Gen. Genet.* 255:438-447 (1997); Meksem, *et al.*, *Mol. Gen. Genet.* 249:74-81 (1995), both of which are herein incorporated by reference in their entirety), *Phytophthora infestans* (Van der Lee, *et al.*, *Fungal Genet. Biol.* 21:278-291 (1997), herein incorporated by reference in its entirety), *Bacillus anthracis* (Keim, *et al.*, *J. Bacteriol.* 179:818-824 (1997), herein incorporated by reference in its entirety), *Astragalus*

*cremnophylax* (Travis, *et al.*, *Mol. Ecol.* 5:735-745 (1996), herein incorporated by reference in its entirety), *Arabidopsis* (Cnops, *et al.*, *Mol. Gen. Genet.* 253:32-41 (1996), herein incorporated by reference in its entirety), *Escherichia coli* (Lin, *et al.*, *Nucleic Acids Res.* 24:3649-3650 (1996), herein incorporated by reference in its entirety), *Aeromonas* (Huys, *et al.*, *Int. J. Syst. Bacteriol.* 46:572-580 (1996), herein incorporated by reference in its entirety), nematode (Folkertsma, *et al.*, *Mol. Plant Microbe Interact.* 9:47-54 (1996), herein incorporated by reference in its entirety), tomato (Thomas, *et al.*, *Plant J.* 8:785-794 (1995), herein incorporated by reference in its entirety), and human (Latorra, *et al.*, *PCR Methods Appl.* 3:351-358 (1994), herein incorporated by reference in its entirety). AFLP analysis has also been used for fingerprinting mRNA (Money, *et al.*, *Nucleic Acids Res.* 24:2616-2617 (1996); Bachem, *et al.*, *Plant J.* 9:745-753 (1996), both of which are herein incorporated by reference in their entirety). It is understood that one or more of the nucleic acid molecules of the present invention, may be utilized as markers or probes to detect polymorphisms by AFLP analysis for fingerprinting mRNA.

Polymorphisms may also be found using random amplified polymorphic DNA (RAPD) (Williams *et al.*, *Nucl. Acids Res.* 18: 6531-6535 (1990), herein incorporated by reference in its entirety) and cleaveable amplified polymorphic sequences (CAPS) (Lyamichev *et al.*, *Science* 260: 778-783 (1993), herein incorporated by reference in its entirety). It is understood that one or more of the nucleic acid molecules of the present invention, may be utilized as markers or probes to detect polymorphisms by RAPD or CAPS analysis.

Polymorphisms are useful, through linkage analysis, to define the genetic distances or physical distances between polymorphic traits. A physical map or ordered array of genomic DNA fragments in the desired region containing the gene may be used to characterize and isolate genes corresponding to desirable traits. For this purpose, yeast artificial chromosomes (YACs),

bacterial artificial chromosomes (BACs), and cosmids are appropriate vectors for cloning large segments of DNA molecules. Although fewer clones are needed to make a contig for a specific genomic region by using YACs (Agyare *et al.*, *Genome Res.* 7: 1-9 (1997); James *et al.*, *Genomics* 32: 425-430 (1996), both of which are herein incorporated by reference in their entirety), chimerism in the inserted DNA fragment can arise. Cosmids are convenient for handling smaller-size DNA molecules and may be used for transformation in developing transgenic plants. BACs also carry DNA fragments and are less prone to chimerism.

Through genetic mapping, a fine scale linkage map can be developed using DNA markers, and, then, a genomic DNA library of large-sized fragments can be screened with molecular markers linked to the desired trait. Molecular markers are advantageous for agronomic traits that are otherwise difficult to tag, such as resistance to pathogens, insects and nematodes, tolerance to abiotic stresses, quality parameters and quantitative traits. The essential requirements for marker-assisted selection in a plant breeding program are: (1) the marker(s) should co-segregate or be closely linked with the desired trait; (2) an efficient means of screening large populations for the molecular marker(s) should be available; and (3) the screening technique should have high reproducibility across laboratories, be economical to use and be user-friendly. Molecular marker studies using near-isogenic lines (NILs) (Martin *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 88: 2336-2340 (1991); Young *et al.*, *Genetics* 120: 579-585. (1988), both of which are herein incorporated by reference in their entirety), bulked segregant analysis (Michelmore *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 88: 9828-9832 (1991), herein incorporated by reference in its entirety) or recombinant inbred lines (Mohan *et al.*, *Theor. Appl. Genet.* 87: 782-788 (1994), herein incorporated by reference in its entirety) have been used to map genes in different plant species (Coe and Neuffer, In: *Genetic maps: locus maps of complex genomes*, ed.

S.J. O'Brien, Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 157-189 (1993), herein incorporated by reference in its entirety). It is understood that one or more of the nucleic acid molecules of the present invention may be used as molecular markers.

In accordance with this aspect of the present invention, a sample nucleic acid is obtained  
5 from cells. Any source of nucleic acid may be used. Preferably, the nucleic acid is genomic DNA. The nucleic acid is subjected to restriction endonuclease digestion. For example, one or more EST nucleic acid molecule or fragment thereof can be used as a probe in accordance with the above-described polymorphic methods. The polymorphism obtained in this approach can then be cloned to identify the mutation at the coding region which alters the protein's structure or  
10 regulatory region of the gene which affects its expression level.

In one aspect of the present invention, an evaluation can be conducted to determine whether a particular mRNA molecule is present. One or more of the nucleic acid molecules of the present invention, preferably one or more of the EST nucleic acid molecules of the present invention are utilized to detect the presence or quantity of the mRNA species. Such molecules  
15 are then incubated with cell or tissue extracts of a plant under conditions sufficient to permit nucleic acid hybridization. The detection of double-stranded probe-mRNA hybrid molecules is indicative of the presence of the mRNA; the amount of such hybrid formed is proportional to the amount of mRNA. Thus, such probes may be used to ascertain the level and extent of the mRNA production in a plant's cells or tissues. Such nucleic acid hybridization may be conducted under  
20 quantitative conditions (thereby providing a numerical value of the amount of the mRNA present). Alternatively, the assay may be conducted as a qualitative assay that indicates either that the mRNA is present, or that its level exceeds a user set, predefined value.



A principle of *in situ* hybridization is that a labeled, single-stranded nucleic acid probe will hybridize to a complementary strand of cellular DNA or RNA and, under the appropriate conditions, these molecules will form a stable hybrid. When nucleic acid hybridization is combined with histological techniques, specific DNA or RNA sequences can be identified within a single cell. An advantage of *in situ* hybridization over more conventional techniques for the detection of nucleic acids is that it allows an investigator to determine the precise spatial population (Angerer *et al.*, *Dev. Biol.* 101: 477-484 (1984); Angerer *et al.*, *Dev. Biol.* 112: 157-166 (1985); Dixon *et al.*, *EMBO J.* 10: 1317-1324 (1991), all of which are herein incorporated by reference in their entirety). *In situ* hybridization may be used to measure the steady-state level of RNA accumulation. It is a sensitive technique and RNA sequences present in as few as 5-10 copies per cell can be detected (Hardin *et al.*, *J. Mol. Biol.* 202: 417-431.(1989), herein incorporated by reference in its entirety). A number of protocols have been devised for *in situ* hybridization, each with tissue preparation, hybridization, and washing conditions (Meyerowitz, *Plant Mol. Biol. Rep.* 5: 242-250 (1987); Cox and Goldberg, In: *Plant Molecular Biology: A Practical Approach* (ed. C.H. Shaw), pp. 1-35. IRL Press, Oxford (1988); Raikhel *et al.*, *In situ RNA hybridization in plant tissues*. In *Plant Molecular Biology Manual*, vol. B9: 1-32. Kluwer Academic Publisher, Dordrecht, Belgium (1989), all of which are herein incorporated by reference in their entirety).

*In situ* hybridization also allows for the localization of proteins within a tissue or cell (Wilkinson, *In Situ Hybridization*, Oxford University Press, Oxford (1992); Langdale, *In Situ Hybridization* 165-179 In: *The Maize Handbook*, eds. Freeling and Walbot, Springer-Verlag, New York (1994), both of which are herein incorporated by reference in their entirety). It is understood that one or more of the molecules of the present invention, preferably one or more of

the EST nucleic acid molecules of the present invention or one or more of the antibodies of the present invention may be utilized to detect the expression level or pattern of a protein or mRNA thereof by *in situ* hybridization.

Fluorescent *in situ* hybridization also enables the localization of a particular DNA  
 5 sequence along a chromosome which is useful, among other uses, for gene mapping, following chromosomes in hybrid lines or detecting chromosomes with translocations, transversions or deletions. *In situ* hybridization has been used to identify chromosomes in several plant species (Griffor *et al.*, *Plant Mol. Biol.* 17: 101-109 (1991); Gustafson *et al.*, *Proc. Nat'l. Acad. Sci. (U.S.A.)* 87: 1899-1902 (1990); Mukai and Gill, *Genome* 34: 448-452. (1991); Schwarzacher  
 10 and Heslop-Harrison, *Genome* 34: 317-323 (1991); Wang *et al.*, *Jpn. J. Genet.* 66: 313-316 (1991); Parra and Windle, *Nature Genetics*, 5: 17-21 (1993), all of which are herein incorporated by reference in their entirety). It is understood that the nucleic acid molecules of the present invention may be used as probes or markers to localize sequences along a chromosome.

It is also understood that one or more of the molecules of the present invention,  
 15 preferably one or more of the EST nucleic acid molecules of the present invention or one or more of the antibodies of the present invention may be utilized to detect the expression level or pattern of a protein or mRNA thereof by *in situ* hybridization.

Further, it is also understood that any of the nucleic acid molecules of the present invention may be used as marker nucleic acids and or probes in connection with methods that  
 20 require probes or marker nucleic acids. As used herein, a probe is an agent that is utilized to determine an attribute or feature (e.g. presence or absence, location, correlation, identity, etc.) or a molecule, cell, tissue or plant. As used herein, a marker nucleic acid is a nucleic acid molecule

that is utilized to determine an attribute or feature (e.g., presence or absence, location, correlation, etc.) or a molecule, cell, tissue or plant.

Nucleic acid molecules of the present invention can be used to monitor expression. A microarray-based method for high-throughput monitoring of gene expression may be utilized to measure gene-specific hybridization targets. This 'chip'-based approach involves using microarrays of nucleic acid molecules as gene-specific hybridization targets to quantitatively measure expression of the corresponding genes (Schena *et al.*, *Science* 270: 467-470 (1995); Shalon, Ph.D. Thesis, Stanford University (1996), both of which are herein incorporated by reference in their entirety). Every nucleotide in a large sequence can be queried at the same time. Hybridization can be used to efficiently analyze nucleotide sequences.

Several microarray methods have been described. One method compares the sequences to be analyzed by hybridization to a set of oligonucleotides or cDNA molecules representing all possible subsequences (Bains and Smith, *J. Theor. Biol.* 135: 303 (1989), herein incorporated by reference in its entirety). A second method hybridizes the sample to an array of oligonucleotide or cDNA probes. An array consisting of oligonucleotides or cDNA molecules complementary to subsequences of a target sequence can be used to determine the identity of a target sequence, measure its amount, and detect differences between the target and a reference sequence. Nucleic acid molecules microarrays may also be screened with protein molecules or fragments thereof to determine nucleic acid molecules that specifically bind protein molecules or fragments thereof.

The microarray approach may also be used with polypeptide targets (U.S. Patent No. 5,445,934; U.S. Patent No. 5,143,854; U.S. Patent No. 5,079,600; U.S. Patent No. 4,923,901, all of which are herein incorporated by reference in their entirety). Essentially, polypeptides are synthesized on a substrate (microarray) and these polypeptides can be screened with either

protein molecules or fragments thereof or nucleic acid molecules in order to screen for either protein molecules or fragments thereof or nucleic acid molecules that specifically bind the target polypeptides (Fodor *et al.*, *Science* 251: 767-773 (1991), herein incorporated by reference in its entirety).

5 It is understood that one or more of the molecules of the present invention, preferably one or more of the nucleic acid molecules or protein molecules or fragments thereof of the present invention may be utilized in a microarray based method. In a preferred embodiment of the present invention, one or more of the *Cyanidium caldarium* nucleic acid molecules or protein molecules or fragments thereof of the present invention may be utilized in a microarray based  
10 method. A particular preferred microarray embodiment of the present invention is a microarray comprising nucleic acid molecules encoding genes or fragments thereof that are homologues of known genes or nucleic acid molecules that comprise genes or fragment thereof that elicit only limited or no matches to known genes. A further preferred microarray embodiment of the present invention is a microarray comprising nucleic acid molecules having genes or fragments  
15 thereof that are homologues of known genes and nucleic acid molecules that comprise genes or fragment thereof that elicit only limited or no matches to known genes.

Nucleic acid molecules of the present invention may be used in site directed mutagenesis. Site-directed mutagenesis may be utilized to modify nucleic acid sequences, particularly as it is a technique that allows one or more of the amino acids encoded by a nucleic acid molecule to be  
20 altered (e.g. a threonine to be replaced by a methionine). Three basic methods for site-directed mutagenesis are often employed. These are cassette mutagenesis (Wells *et al.*, *Gene* 34: 315-23 (1985), herein incorporated by reference in its entirety), primer extension (Gilliam *et al.*, *Gene* 12: 129-137 (1980); Zoller and Smith, *Methods Enzymol.* 100: 468-500 (1983); Dalbadie-

McFarland *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 79: 6409-6413 (1982), all of which are herein incorporated by reference in their entirety) and methods based upon PCR (Scharf *et al.*, *Science* 233: 1076-1078 (1986); Higuchi *et al.*, *Nucleic Acids Res.* 16: 7351-7367 (1988), both of which are herein incorporated by reference in their entirety). Site-directed mutagenesis approaches are also described in EP 0 385 962, EP 0 359 472, and PCT Patent Application WO 93/07278, all of which are herein incorporated by reference in their entirety.

Site-directed mutagenesis strategies have been applied to plants for both *in vitro* as well as *in vivo* site-directed mutagenesis (Lanz *et al.*, *J. Biol. Chem.* 266: 9971-9976 (1991); Kovgan and Zhdanov, *Biotehnologiya* 5: 148-154, No. 207160n, Chemical Abstracts 110: 225 (1989); Ge *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 86: 4037-4041 (1989); Zhu *et al.*, *J. Biol. Chem.* 271: 18494-18498 (1996); Chu *et al.*, *Biochemistry* 33: 6150-6157 (1994), Small *et al.*, *EMBO J.* 11: 1291-1296 (1992); Cho *et al.*, *Mol. Biotechnol.* 8: 13-16 (1997); Kita *et al.*, *J. Biol. Chem.* 271: 26529-26535 (1996); Jin *et al.*, *Mol. Microbiol.* 7: 555-562 (1993); Hatfield and Vierstra, *J. Biol. Chem.* 267: 14799-14803 (1992); Zhao *et al.*, *Biochemistry* 31: 5093-5099 (1992), all of which are herein incorporated by reference in their entirety).

Any of the nucleic acid molecules of the present invention may either be modified by site-directed mutagenesis or used as, for example, nucleic acid molecules that are used to target other nucleic acid molecules for modification. It is understood that mutants with more than one altered nucleotide can be constructed using techniques that practitioners skilled in the art are familiar with such as isolating restriction fragments and ligating such fragments into an expression vector (*see, for example, Sambrook et al., Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Press (1989)*). In a preferred embodiment of the present invention, one or

more of the nucleic acid molecules or fragments thereof of the present invention may be modified by site-directed mutagenesis.

In addition to the above discussed procedures, practitioners are familiar with the standard resource materials which describe specific conditions and procedures for the construction, manipulation and isolation of macromolecules (e.g., DNA molecules, plasmids, etc.), generation of recombinant organisms and the screening and isolating of clones, (see for example, Sambrook *et al.*, *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Press (1989); Mailga *et al.*, *Methods in Plant Molecular Biology*, Cold Spring Harbor Press (1995); Birren *et al.*, *Genome Analysis: Analyzing DNA*, 1, Cold Spring Harbor, New York, all of which are herein incorporated by reference in their entirety).

Having now generally described the invention, the same will be more readily understood through reference to the following examples which are provided by way of illustration, and are not intended to be limiting of the present invention, unless specified.

### Example 1

The cDNA library LIB190 is prepared from the cultures of the thermophilic red algae *Cyanidium caldarium*. *Cyanidium* cultures were grown in media described in Ascione et al. (Science 153: 752-755; 1966), supplemented with maltose and galactose as carbon sources and grown with constant illumination (*ca.* 700 microEinsteins of light) at 45°C with agitation at 200 rpm on a rotary shaker. Samples were subcultured into fresh media in a 2 liter flask (200 ml volume) and grown for 5 days and then harvested for RNA preparation. Total RNA is isolated using standard methods and precipitated with LiCl. Poly A<sup>+</sup> mRNA is purified by oligodT chromatography for use in library construction in pSPORT plasmid.

For the construction of the cDNA library of the present invention, the Superscript™ Plasmid System for cDNA synthesis and Plasmid Cloning (Gibco BRL, Life Technologies, Gaithersburg, MD) or similar system, following the conditions suggested by the manufacturer, is used. cDNA size fractionation columns from Gibco BRL (Gibco BRL, Life Technologies, Gaithersburg, MD) are used for size selection of cDNA inserts. Clones are selected and the plasmid DNA is isolated using a commercially available kit.

The quality of the cDNA libraries is determined by examining the cDNA insert size, and also by sequence analysis of a random selection an appropriate number of clones from the library.

### Example 2

The cDNA library of the present invention, LIB190, is plated on LB agar containing the appropriate antibiotics for selection and incubated at 37°C for a sufficient time to allow the growth of individual colonies. Single colonies are individually placed in each well of 96-well microtiter plates containing LB liquid including the selective antibiotics. The plates are incubated overnight at approximately 37°C with gentle shaking to promote growth of the cultures. The plasmid DNA is isolated from each clone using a commercially available kit such as Qiaprep plasmid isolation kits, using the conditions recommended by the manufacturer (Qiagen Inc., Santa Clarita, CA). A variety of plasmid isolation kits are commercially available.

The template plasmid DNA clones are used for subsequent sequencing. For sequencing the cDNA library LIB190, a commercially available sequencing kit, such as the ABI PRISM dRhodamine Terminator Cycle Sequencing Ready Reaction Kit with AmpliTaq® DNA Polymerase, FS, is used under the conditions recommended by the manufacturer (PE Applied

Biosystems, Foster City, CA). The ESTs of the present invention are generated by sequencing initiated from the 5' end of each cDNA clone.

Two basic methods can be used for DNA sequencing, the chain termination method of Sanger *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 74: 5463-5467 (1977), herein incorporated by  
 5 reference in its entirety and the chemical degradation method of Maxam and Gilbert, *Proc. Natl. Acad. Sci. (U.S.A.)* 74: 560-564 (1977), herein incorporated by reference in its entirety.

Automation and advances in technology such as the replacement of radioisotopes with fluorescence-based sequencing have reduced the effort required to sequence DNA (Craxton, *Method*, 2: 20-26 (1991); Ju *et al.*, *Proc. Natl. Acad. Sci. (U.S.A.)* 92: 4347-4351 (1995); Tabor  
 10 and Richardson, *Proc. Natl. Acad. Sci. (U.S.A.)* 92: 6339-6343 (1995), all of which are herein incorporated by reference in their entirety). Automated sequencers are available from, for example, Pharmacia Biotech, Inc., Piscataway, New Jersey (Pharmacia ALF), LI-COR, Inc., Lincoln, Nebraska (LI-COR 4,000) and Millipore, Bedford, Massachusetts (Millipore BaseStation).

15 In addition, advances in capillary gel electrophoresis have also reduced the effort required to sequence DNA and such advances provide a rapid high resolution approach for sequencing DNA samples (Swerdlow and Gesteland, *Nucleic Acids Res.* 18: 1415-1419 (1990); Smith, *Nature* 349: 812-813 (1991); Luckey *et al.*, *Methods Enzymol.* 218: 154-172 (1993); Lu *et al.*, *J. Chromatog. A.* 680: 497-501 (1994); Carson *et al.*, *Anal. Chem.* 65: 3219-3226 (1993); Huang *et al.*, *Anal. Chem.* 64: 2149-2154 (1992); Kheterpal *et al.*, *Electrophoresis* 17: 1852-1859 (1996);  
 20 Quesada and Zhang, *Electrophoresis* 17: 1841-1851 (1996); Baba, *Yakugaku Zasshi* 117: 265-281 (1997), all of which are herein incorporated by reference in their entirety).



A number of sequencing techniques are known in the art, including fluorescence-based sequencing methodologies. These methods have the detection, automation and instrumentation capability necessary for the analysis of large volumes of sequence data. Currently, the 377 DNA Sequencer (Perkin-Elmer Corp., Applied Biosystems Div., Foster City, CA) allows the most rapid electrophoresis and data collection. With these types of automated systems, fluorescent dye-labeled sequence reaction products are detected and data entered directly into the computer, producing a chromatogram that is subsequently viewed, stored, and analyzed using the corresponding software programs. These methods are known to those of skill in the art and have been described and reviewed (Birren *et al.*, *Genome Analysis: Analyzing DNA*,<sup>1</sup> Cold Spring Harbor, New York, herein incorporated by reference in its entirety).

We claim:

1. A substantially purified nucleic acid molecule that encodes an algal protein or fragment thereof comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674.

5 2. The substantially purified nucleic acid molecule according to claim 1, wherein said algal protein or fragment thereof is a *Cyanidium caldarium* protein or fragment thereof.

3. A substantially purified *Cyanidium caldarium* protein homologue or fragment thereof encoded by a nucleic acid molecule that comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through SEQ ID NO: 5674.

10 4. A transformed cell having a nucleic acid molecule which comprises:  
(A) an exogenous promoter region which functions in said cell to cause the production of a mRNA molecule; which is linked to

(B) a structural nucleic acid molecule, wherein said structural nucleic acid molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NO: 1 through  
15 SEQ ID NO: 5674; which is linked to

(C) a 3' non-translated sequence that functions in said cell to cause termination of transcription and addition of polyadenylated ribonucleotides to a 3' end of said mRNA molecule.

5. The transformed cell according to claim 4, wherein said cell is selected from the group consisting of an algal cell, a plant cell, a mammalian cell, a fungal cell and an insect cell.

20 6. The transformed cell according to claim 4, wherein said cell is an algal cell

7. The transformed cell according to claim 6, wherein said cell is a *Cyanidium caldarium* cell.

**Abstract**

Expressed Sequence Tags (ESTs) isolated from the unicellular red algae, *Cyanidium*  
5 *caldarium*, are disclosed. The invention encompasses nucleic acid molecules that encode  
*Cyanidium caldarium* protein homologs and fragments thereof. In addition, antibodies capable of  
binding the proteins are encompassed by the present invention. The disclosed ESTs have  
particular utility in isolating genes and promoters, identifying and mapping the genes involved in  
developmental and metabolic pathways, and determining gene function. The ESTs provide a  
10 unique molecular tool for the targeting and isolation of novel genes for plant protection and  
improvement. The invention also relates to methods of using the disclosed nucleic acid  
molecules, proteins, fragments of proteins, and antibodies, for example, for gene identification  
and analysis, and preparation of constructs.

<110> Fisher, Dane K.  
 Lalgudi, Raghunath V.

<120> Nucleic Acid Sequences from Cyanidium caldarium and Uses thereof

<130> 38-21(15749)B

<150> 60/128,439

<151> 1999-04-06

<160> 5674

<210> 1  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-A12

<400> 1

acgccgtcga ttgagaatta cgagttgctt tcgagtctcg gctggttggtt catattattc 60  
 tttgctgaaa gcgtttgggg cttgtatcag tcgccatgaa gtattccaaa gttgtatcgt 120  
 cgtctagaag aaagcagagg aaagcatact ttcaagcacc atcttctgta cgacgaatac 180  
 tcatgagtgc acccttgtcc aaggaactac gtacgaaata cagcgttcgt tctttaccta 240  
 ttcgaaaaga agacgaagta atcatagtgc gcggagcttt caagggtaga gaaggaaaag 300  
 ttacaacgtg ttatcgaaag aaatatcgga tacatatcga gagagtgacc agagaaaaag 360  
 cgaatggaat gactgtacct gtgggaatac atccatctaa tgttggtta 408

<210> 2  
 <211> 73  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-A3

<400> 2

agggcggcgt cataatagaa atccgaaagg agtagaagaa aagagagaga agaaagagaa 60  
 gaagagaaaa gcc 73

<210> 3  
 <211> 415

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-A5  
 <400> 3

ggcggcgtca taatagaaat ccgaaaggag tagaagaaaa gagagagaag aaagaaaaga 60  
 agagaaaagc cgtactgaag accgacacag gtactcgagg agaaaggaga cccaaattaa 120  
 ggtgagagaa tggacgataa ggaactaggc aaaaggatat ggtatctgcg gtagaacata 180  
 tgaaagaagc agcaccgact gtttagcaaa aacacagcac tctgcagaaa agagaaaatg 240  
 taaagtatag agtgtgcggc ctgccaaata gtagagaaga aatcgatgaa agtgaaagcg 300  
 agtaaaagat gaggtataga gaatggcggc cctaactgta aggatccaaa ggtagcgaag 360  
 taaatagacg tttgaaaggc gtccagtatg aaaggagaaa cgagtgtagc actgt 415

<210> 4  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-A6  
 <400> 4

gaggaaagaa agatcaagga agtaagagta agagaaggag taatgtgaat gaaagcagga 60  
 aagtatttga agaagagagt gtaaagcgcg taccttttgc ataatgtccc agcgagtga 120  
 agaggaagca taaaaaaaaa agaactaagc aaaaagaaaa aaaaacagca gaaaaaaaaat 180  
 atgaaaaaaaa caacaccaac agttaaaaaa aaaacacaac actcagcaaa aaaaaaaaaa 240  
 atgtaaaata aagaatgtga cggactgcc aaaaaaaaaa aaaaaggcg agcaccctga 300  
 aaggtactaa ccttatgagg tatacagaat gacggtacta actgtaaaga 350

<210> 5  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-A8  
 <400> 5

ctagtttatt aacctttcta agaattgggtg cttttgtgtt tgggtgtagct gcaggttttg 60

gaagtgcttc agcggaccat cgtaaaagag aaaaaatttt aattttctaaa attcacgagc 120  
gcaatgccaa aattgaggcg ttggaaagtg aactaaagca actgaaaggg gaaattccag 180  
cttctacagg tgatccagtt caagattggt tgaatcaatt ggaataagat gtatatgtta 240  
caagtgcctt gtggaagaga gagatagtca tttgaataaa attagttctt ttcccaacaa 300  
aaaaaaaaac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaataaaaaa 360  
aaagaaagag ctgaaaaaaa aaattagagt aaaaaaaaaa aaaaaaaggg ggg 413

<210> 6  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-A9

<400> 6

cccacgcgtc cgcccacgcg tccgcccacg cgtccgccca cgcgtccgcc cacgcgtccg 60  
cccacgcgtc cgatttttgt caaaatttca caaagagata tcgataccta agatatccca 120  
agattgggtc atggagaaga agaattggga ttggcagaat ctttttagtcg tgaaggtcga 180  
gtcaactata tgttacagaa aagattggat gatttgcaac tagtgaagca gttggcagag 240  
tctttgttgt tacctggcga ttatggttat tcttgtgaaa atgcactctt gctatatcat 300  
acgcatgtgc tgccattgaa aaaggagttt tttgctcaac tgtatcaaata acaagaccac 360  
tccaacatat catcgtggat agctcaacat tttccatttc atagtttttt 410

<210> 7  
<211> 271  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-B11

<400> 7

cgaagatatt cttgacgcc aaaaacgcatt ggaacacctg agtgggttca atgtagctgg 60  
tcgatacctt attgtattgt atcatcaacc ggagaaaatg aaaaagaatg aggagaataa 120  
agtgtagaag gttgtttgta acgtagagta tgcataattgt gtttgaccag cgtttggaac 180  
ttttagtcta ttatccccgt ggacgtatgt gaatagtctt ggaatgactc cagcagtagg 240

agaaggctat taaaagtgat ggttttattgt g

271

<210> 8

<211> 433

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-B3

<400> 8

gaaaaaagtg tgcacaacat caactttcac agcagcaatg tcacctgttt agcgttgaaa 60

gataaagggtc cactcgtggc aacttggttca gaagacaagt ccgtagcggt gtgggacctt 120

cgagtcacgg ccccgtgca gagcttgaag tgctctcacc ccctgagttg tgtatcttat 180

ggaagagatg actcagaaat cataacatca gactatagtg gttcggcaag gatatggaat 240

attgaaacaa atcgacaaat tggtcgttta cagactcgcg actcttctat tctcacaggt 300

tttcttcacg atacagcccg ctactatattt attatgtttg gaagctctgg atacgtatac 360

atcagttctac taaactccaa acggggaaca ggagagcgta aacttcgact taaatatgta 420

cacgggaaat cta 433

<210> 9

<211> 441

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-B5

<400> 9

agctcgtgag atgcggttaag ttatgtcaga aacgagtgat atatccaact gcagcaactt 60

gtgttacata cttgtctctg ttggtagtgt tgtagccatc ctcttcaactg cttcgttggt 120

aggactcgtt tcacgaagaa gaagtcaacg aatacgagag tttccgaacc cgttactaga 180

tgaagagttt gccgaaagtg ttcgctcgga cgaaattggt cgctatttcc tggaaagagt 240

tgtaatggaa gagtttcttt tagtagatga aacgggcaag tcttttggtc cccctttaac 300

actaaaccgg gacaatgtgg agactgtata tcctgaggtg tcctttgaac gtcactctcg 360

ttgtggttaag ggagagagta gtacacctga agtgggtgtt ttagtagatat gtctagacga 420

aattaattcg cagaatgttg t 441

<210> 10  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-B6

<400> 10

acaacgcgtc atgccataag ttagatcaaa gtttagtgat aaatccagct gcagcaactt 60  
 gtgtcatata tgtgtcactg ttggtactgt tattgccatc atcatcattg cttcgatggg 120  
 atgacgcatt tcacaaagaa gaatcatcga agtatagagt ttcctgacac gtcagtagat 180  
 ttatagtttg ctgacagtgt tcgatcggag gatattgggc gctatttcct gcaaagagtt 240  
 gtaatggtag agttttctttt agtatatgaa acgggcaagt cgtttgttcc ccctttaaca 300  
 ctaaaccggg acaatgtgga gactgtatat cctgaggtgt cctttgaacg tcatctcgct 360  
 tgtggtaacg gagagagtag tacacctgaa atgggtgtttt gtagtatatg tccagacgaa 420  
 atta 424

<210> 11  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-B8

<400> 11

cgattttgag ttccgcttga atgatgggtc tactgtaaag ttaggtccct tactcaatat 60  
 gaaacttact gatgatgatg ttgctgctgg tctatccaat aatcgggtgt tgcaggctgc 120  
 atttattatt ttacgtgacg aaaagaaacc attagatgcg aaagctcttg ctgaacgcgc 180  
 atcggaaagg ggattccact gtctctcttt gatgccgaat aatacattct ctagccaaat 240  
 atatcgtaat atgaagagaa agaaggaaca ttctgcattt tataaagtca ataatgggga 300  
 attcgggtcta aaaatttggc ttcgtgagga agccaatgcc aagatggagg acggagaaac 360  
 aaacaagaaa actcatcaag gcaccgtatc tga 393

<210> 12  
 <211> 399



<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-001-Q1-E1-B9  
  
 <400> 12  
  
 cccacgcgtc cgcgagcgcg tgggatacag tttccttcac ttgtggttgg gattggttgcg 60  
 caatgttcaa gtcgctagct tttatttcca tctatttgaa atatccacgc tgcagtagct 120  
 cgggtgcaaac aaacgcagca cgaacaatat ggaaaccttt attatcaacg tatcaacaga 180  
 gactttattc cggaatgtcc gttgatattc ggtgggtcac ttacaaaaac cgaaagtcgt 240  
 acacttcaag tatactaagt ttcaagtctt cctattccac acaaggagga gacacggagg 300  
 gcaagatacc tcattctaaa gatatgaaag gagaacctca gtccgcttca gatgcttacg 360  
 acaagacttg ggctaaagaa aacttcanag acacttctg 399

<210> 13  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-001-Q1-E1-C1  
  
 <400> 13  
  
 cccacgcgtc cgggcggtcg cataatagaa atccgaaagg agtagaagaa aagagagaga 60  
 agaaagaaaa gaagagaaaa gccgtactga agaccgacac aggtactcga ggagaaagga 120  
 gacccaaatt aaggtgagag aatggacgat aaggaactag gcaaaaggat atggtatctg 180  
 cggtagaaca tatgaaagaa gcagcaccga ctgttttagca aaaacacagc actctgcaga 240  
 aaagagaaaa tgtaaagtat agagtgtgcg gcctgcaaaa tagtagagaa gaaatcgatg 300  
 aaagtgaag cgagtaaaag atgaggtata gagaatggcg gtcctaacag taaggatcca 360  
 aaggtagcga agtaaataga cgtttgaaag gcgtccagta tgaaaggaga aacgagtgtg 420  
 gcactgtcta gtcgtccaac tcagcgaaac agca 454

<210> 14  
 <211> 354  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-C10

<400> 14

accacgcgt ccgaaaaggg tacaaggact ttgtattcct tgttacttgt tgcccgggtgc 60  
aagataagct cgttgaaaag tacgggctac cgagtataga accgtactcg gaataaccgg 120  
ctccaacaac ggcacatata actaatatag tttattggcg tgttttggaa aaaaatgttg 180  
ggaactaatt taccgcagga aaaagaactc gacaggagct tttgtcgaat gatgttcgtg 240  
taattcaaca cgatatagct gcaggctctt cagatatata agttgtcgaa acactattga 300  
tacctcccaa tgtgcatatt tcaaaacaaa agtttcgtct cctagttgtg aggt 354

<210> 15

<211> 386

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-C11

<400> 15

gaaagcatag gaagtgaac ggattaggaa cccgtgtagt ctatgcagta aaagaaagaa 60  
tgagtaagaa aaaaggaggt cattccacca ggggagtaaa ggcgcaagaa agaaacccaa 120  
agcaattgac gggaatcgga aaaaggggtg gatcacgtaa attaatccga taaaccgaga 180  
accttacctc tccaagaagg tgttgcacgg ctgtcgaaag aacgtgctgt gaagtgagag 240  
aacgtacgag aaagccaagt gaggaaaaga aggcaagtag agggcgggcc gagaaaggag 300  
agggcgtaag acgtgataca gagtaggaag aaaagagaag agagctagaa aggaggtaaa 360  
agaagagtaa aaggactaga agaggt 386

<210> 16

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-C12

<400> 16

aattgaaaaa aaatataata ataaaatata taaaaacata caaaaaatac cttttataat 60  
attattagtt attgatttta tcaaactatt ttttttaaaa tcaattgata gtaaattcac 120

tttaaagtgc ataaaatcaa tttaatcaaa ctataactaa ttagaataaa atgaaaaata 180  
aacttaaaac tttacgtgca gctttaaaga gatttactat aacaggaaat aaaaaaatat 240  
tacattataa agttggaaaa aatcatctac taagtaaaaa gaataaaaaa agaaaaagac 300  
atztatctgt taaagtaata attaatgaat atattaaaaa agcacaaatt aataaattat 360  
tgccatatat ttaaatatat ggagatgaat aaatataaaa ataatat 407

<210> 17  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-001-Q1-E1-C2  
<400> 17

gcgccaatcc agaagaaaat aattcaattt taatggaaga agaaaccttg tagtaaactt 60  
tattggaaaa ttcttttgcc tgtcctttat cttagtattg catcacaatg tttggagatc 120  
atccttaaat tgtcgttgag gaaaacatgg cgacatttac ggcacgcctc aagcagctct 180  
ggaatcatcc agcgggacct aaaacagtgt ttttttgggc tcctaccatg aaatgggctt 240  
tggtgggtgc aggctgtcc gatatgaagc gccccctga gaaactttcc gtacctcaaa 300  
acctagcttt ggcttgact ggagttatct gggttcgata tagttttgta ataacaccag 360  
taaactataa cttggcactg gtcaatacct ttgatgggtgc taccggt 407

<210> 18  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-001-Q1-E1-C5  
<400> 18

attacctcta gtggcgctgc ataaagaaat tccaaggagt gctatcgttg agttgaagac 60  
agaactgcaa agacgcggct ctgacctgtg cgtcttgccc aagttttgta cggactccat 120  
ccttgagata tgccataaat acggaataga agctatctac tacaactatg ccgagctccc 180  
agaccaaagc cagcttcaga atgatatgat tactgatttg gagaatagag gtgttcaagt 240  
caaaggtttt tggagcaata ctcttgcttc tccagagcag atggaaaaca taaaagcttc 300

agatattgga ttttaggaagt tttcacagga agcgaagaat gtgaagactt ctgaacctct 360  
tcgtactcca gacaagttac ctctgtgtcc tgaagacatt ccaacgagaa tggtaga 417

<210> 19  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-001-Q1-E1-C7

<400> 19

ccgaatatac tggagctaata agaagtgggc acgactgtan atgcatcatg cgtctttctc 60  
gtctttgaac acggcaatac cgatttggga gtagtattag aactatgta cgagcgtcgc 120  
tcaaagctag aattatgtca agtgaagagt attttatatc aaatcttaga aggtctagta 180  
tatcttcatg atagctggat aatgcatcga gacttgaaaa tgcgaacat ttataacaat 240  
cgagatgggc aagtgaagat tgccgatttt ggtttaacaa gagaatatac ttcaccattg 300  
aagcctttta ccccaaaagt agtaacttta tggtagcgtg caccggaatt gcttcgttgt 360  
gatcaaaatt tacacaagat ttcattt 388

<210> 20  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-C8

<400> 20

gttcgtacta caacagtttc tttcaagcgt ggattatcgc aagcagtga aagcgatcaa 60  
cctacttctg cttcagaagc gcctcaagtt tctagtggg gttcctcctt acatccccag 120  
gaaataccca aagatgctgt caagttttca ttgaaacctt ttgccactca cctcatcgaa 180  
gctccagaac ccgtagctta tgctacgaaa gaacagttac tggcatatca tcgcacgatg 240  
acagttatga ggaggtctga gatcagtgc gatttaattgt ataaagcaca gttgggtcga 300  
ggtttttgc atttgtacga tggtaagaa gcaacagctg taggcattga atcagcgatt 360  
acttgaagag atgctcttat tactgcttat cgcaaccatt gtcagcagtt gggacgagga 420  
gatactccc 429

<210> 21  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-C9  
 <400> 21

cccaaataat acgggcttga tgaatactct gtcacaactt gatattgggg ctatacaagc 60  
 tctacaattg ttacaaaatc ataccttggt gagacaacta ttgttgatg gaacagtga 120  
 ccagtctatt tctattgctt ccttgagtag tggaagtcac cagtttccat ccatgttggg 180  
 acctaattta acgctggtaa agaactcgac aggagctttt gtgaatgatg ttcgtgttat 240  
 tcagcaggat atagctgcag gctcttcaga gatacaagtt gtcgaaacac tattgatacc 300  
 tcccaatgtg catatttcat aacaaaagtt tcgtctccta gttgttaggt ctataaagac 360  
 tttgtttggt tgcactctaaa 380

<210> 22  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-D1  
 <400> 22

ggtcttaccg attctttcat gtcgcaactg gttaatcaag gaaaagaaac cttagccact 60  
 attgaaaagg aattgaaccg ttcaaaaccg aactgcctca agcttgggaa ctactgaatg 120  
 atctcaaagt aaccaactaa aaagttgcct ccatggagac ccacgctcac tcttgacaga 180  
 ttcctttaac gaaacttccc ggtttacaga acaaggcaga ttcctcttct aaaaaggagt 240  
 ttttgctgc acggtcaact tttgaaacaa cctgtttcct gagtatatttg gaaactgaca 300  
 ttgaaaattt cgaacgccac tttatgcaat tgaaaccttt ct 342

<210> 23  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-D10

<400> 23

gtgaaatagt tgggcggtgt gcgacacttg tgtcattgcc tcgtgtatga atatatgctt 60  
cgtttcttgg acacaagtcg acaaactcga gagtcaagag cacggggtgt gtgggacagt 120  
cgatgaacgc aatgcaaact tttcgagtat caagtggaag atatgcaaag tatagcgaac 180  
gaatatcaaa cgctgtttta ttactttcta gtatcaaact cacgaaaagg tgccacgcga 240  
aacggcaciaa tgcgaaagt gtgggtaaag ttcaaagtgg tttccgattt catcaaggta 300  
ttggaaataa agatattcaa aggaacattg tgcattcatta acagaaaacc ttgtccagtt 360  
gttgatgaa tagttgtcta gttgcttacg agacgcggag gatagacga 409

<210> 24

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-D11

<400> 24

gctgggtaca agtaagtaca gagaaggatt actttttttt ccagttgata tatatttcaa 60  
ggttgcgact ttttttgacg ataccttgta catttttgggt ttttatttta aagaacaaca 120  
accaacctcg ttacttttta tgggtagttg ttttgaatat attataccat tttgctagcg 180  
atgttttgat gtttgtttcg atgggagcat attttgcctg tatactctgat gaaaatattg 240  
gaggaaactta tttgacgcta ttgaatactt tacaaaattt gggaggaacg tggcccaagt 300  
tgttggtctt tttctttgtc gatcgtctta cttggaaaca ttgtgagtcg gtttcgtctg 360  
ttgcgatgga acaagttgcc acggagccta tgatggtttg taaagtttgg g 411

<210> 25

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-D12

<400> 25

gaaacaaata atacaagtaa tggagaatat gtacaacaac ccgcaaatac aaaaggaaat 60  
ggcgtcgttg ccaactgaaga gactccttct cggctctcca tggttggttc tatttccaga 120

acaagtttgg agggtcacatc ggagcaaatt cagagaatgt taaatagtcg aaagagtacc 180  
 agtagtcata gtcgacgtag tattttctgat gacttgcttg gtcctcttgc ctttcatgtg 240  
 aattctatta tcgagagaat cggtagaaaa acgatatccg atgaaagata tcaaaaagat 300  
 caagttgctg tgccaagcac tcagtcagca gcagtttcca aatcggtcca aaaagctgca 360  
 gaagagagtc aaaggttttc caac 384

<210> 26  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-001-Q1-E1-D4

<400> 26

caatgctata cgaagaagat ttgaaagacg tatttatatt cctctaccaa atgttcaagc 60  
 acgagaacga atgtttcagt tgcattgtgg aaatacaccc catgagttga aacctgaaga 120  
 tttccacgaa ttggctcttt taacggaagg atattcgggg tccgatattg ctattttagt 180  
 tcgtgatgca attatgcagc ctgtacgtac ctgtcagaat gctcaagcgt ttaagaaagt 240  
 gaagaggccg aagagtgtga cggacaaaac attaaagata ttctatacac cctgtagtcc 300  
 aggtgatcct gaagccgaat ctttgtctct tatggacatc aaggccgatg atcttttggt 360  
 tcccaatgtt tccaggtatg actttgataa agttattgca natacgagac ctagtgtgag 420  
 tcaagaagac atcgca 436

<210> 27  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-D5

<400> 27

cccacgcgtc cgcggacgcg tgggttcctt atattctttg tgcttggaca atggttgcaa 60  
 agactgtctt gagttgcctc tttctctctt tcttatcgc tgccgcagtt gcagccgacg 120  
 tagtttcaga ggagagatgg ggatatgctc agcaaaccce acaacagcaa cagtgcacaac 180

aagtatgtaa acagtatgca tactatcaga gtccagtctg cacttccgta accacacaga 240  
 gcccatactg gacccaatgc tcgaagactg tgcaaacctt tgtcccaagc cagtgcagta 300  
 cttataccca atctcctaca tggacctatt gcagcaccta caccaccact agcgtaccat 360  
 ctcaatgcag caaggccgtg actacttata ctcaaacctg ctgtgcttat gcccaacaaa 420  
 c 421

<210> 28  
 <211> 344  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-D6  
 <400> 28

cccacgcgtc cgagcaagaa gagaagaatt tgtcgaggta tgcggaatgg cctcagtatc 60  
 gaagtgaaac gggctcttta ttccccaaag tggaccgttc gtacttgctt acggtatggg 120  
 attcttatat gaagcagtcg atagatatga cgttggaatg taccaatagc cattcgaaga 180  
 atcctccaaa gacgatgatc aatggagcgg gtgttgggac gaccgtttcg tttcatcccg 240  
 agtctattgt ccatcaggac catagttgat aggaaggaga gccattgtat tgtggtgagg 300  
 tgtcgatata tatatataaa acatacacat acacacattc atag 344

<210> 29  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-001-Q1-E1-D7  
 <400> 29

attctttgtg cttggacaat ggttgcaaag actgctctga gttgcctctt tctctctttc 60  
 cttatcgctg ccgcagttgc agccgacgta gtttcagagg agagatgggg atatgctcag 120  
 caaacccaac aacagcaaca gtgccaacaa gtatgtaaac agtatgcata ctatcagagt 180  
 ccagtctgca cttccgtaac cacacagagc ccatactgga cccaatgctc gaagactgtg 240  
 caaacctttg tccaagcca gtgcagtact tataaccaat ctctacatg gacctattgc 300  
 agcacctaca ccaccactag cgtaccatct caatgcagca aggccgtgac tacctatact 360



caaacctgct gtgcttatgc ccaacanact tcctatgcag tcagtaccga gcaatatgtt 420  
caggaaac 428

<210> 30  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-E1

<400> 30

cggacgcgtc ggttaacgcg gcagggggca cgaagaacgt gtagcttttc gcgatatagt 60  
agtgagtgtc acatgcattc atgtaaatcg atcggctaata tcaaacgggtg tcgtggactg 120  
gtagacatga ctccacacat tgctctagta tagggtaaaa tgtcaccaca cagtgggaagt 180  
caaatcagga atctgatcat gtaggaaacg acattgcgac tgagatagag cctacaccta 240  
aaatatcacc aatggcgaca tgtgggcaat gtacatggat ctgatagcca gtacacaaga 300  
gtgttgtaaa caggaaacgc atcttgagga gggaatgaac gtaagttatt gcataagcac 360  
atgctcgaga taacggtaga acgtgtgt 388

<210> 31  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-E10

<400> 31

tcaatttga ggacttgaag aatgccattc gtccagatac tgttcttgta tccgtaatga 60  
tggtgaataa cgaaattgga gttattcagc caatcgaaga gattggaaag atttgtcggg 120  
aacataaagt attctttcat acggacgctg ctccaggcagt aggaaagatt cctgttgatg 180  
tgagagaaaat gcatatcgat cttatgtcta tatcaggaca taaaatttat ggaccgaaag 240  
gaataggcgc cttatatgtg cgtagaaagc ctctgtttcg tttggagcca attatcaatg 300  
gcggagggtca agaacgaggc ctaagaagtg gaacacttcc agcacctttg gtgggttgaa 360  
tgggtgcggc aagtgaagtt tgta 384

<210> 32  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-001-Q1-E1-E11

<400> 32

cccacgcgtc cgaagaagag agtghtaaggc ggcgtcataa tagaaatccg aaaggagtag 60  
aagaaaagag agagaagaaa gaaaagaaga gaaaagccgt actgaagacc gacacaggta 120  
ctcgaggaga aaggagaccc aaattaaggt gagagaatgg acgataagga actaggcaaa 180  
aggatatggt atctgcggta gaacatatga aagaagcagc accgactgtt tagcaaaaac 240  
acagcactct gcagaaaaga gaaaatgtaa agtatagagt gtgcggcctg ccaaatagta 300  
gagaagacat cgatgaaagt gaaagcgagt aaaagatgag gtatagagaa tggcggctcct 360  
aacggtaagg atccanaggt agcgaagtaa atagacgttt gaa 403

<210> 33  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-E12

<400> 33

aaaactcatc agtggatgat tgtttcaacc tctgcgaaaa ctggcaatgc atctcctgct 60  
acacagtgtc atacttcgca cacttcctat cagaaccttg taaaggaagt agaaaagaaa 120  
tggagcacag gaatgcgtat tgttttgta agtttctactg caggaatgtg gactgcagta 180  
ttgaatcaga agagcactgg ctatcaagag caagctttac attattgccc aggagctgac 240  
tttccacgag aatgggttcg acagaaatgg gatgaaggct tttttattac tgccttggca 300  
ggtaatgcc a cgtcatgggg tgttggttgt tccactatga cacgtaacaa gcgatacaaa 360  
cagcaaagtt atatcgtttc tccaacattt ctttctaaat gggtagctga 410

<210> 34  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-E6

<400> 34

caagaagagt catcgaatag cccccacaat ggatgcaact tgtatgggtc gagtatccac 60  
agatatggaa tgtgggttatg gctcgggttg tagtttatat tttcaatgga acaaggaggc 120  
ggtcattggaa cgaggatgga ttgcacatat aattgcagaa acagatatatt ggataaccaa 180  
agatatattt cattgcagat attggctgag aacgaggacg cttgaacaag caaggttggt 240  
tggcattggc tttgtgacgg ctgggaacgg aacagaacaa gtggccattc caagaaatat 300  
atttctctcc aatgtgataa atatgttttc tgatacattt cgatggattc cttgtgtagc 360  
gagtcagaaa gtatgcacca gagaacaagg tggggtatgg ttggagacga gtctggagtt 420  
ggataaagag gattggg 437

<210> 35

<211> 330

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-E7

<400> 35

caaacgcgtg cggaatataa ggaacaagca gaaagggact attaacgatac aaggtagata 60  
ctacgaatgg aattagccca gaatctaaga tgaagtatca atgtacaaag gagatagtgt 120  
aggtgacatc gagaggggtat gcttagaagc aactgtctag agaggaactt gttcatacat 180  
tcacaaatag agatccgtga aacaatagaa tgaggtaaga aatacgatcg tatcacgcta 240  
atgatgtata atagcatgaa gataagacag aatgctgggt ggagtagtta ctcatgacaa 300  
gggatttaaa cagtcagaat gaggaatggt 330

<210> 36

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-E8

<400> 36

caaattattc gtcttgagga gtgtgaaatt tattcctata ttcccgacta cgagtctgac 60

ccatacagtt cttgcggtgc tctgtggtct ttttggtact ttttttatca caaaaatatg 120  
 aaaaagattc tgttggttgc gtgtacgctg tccaccgctc ttgcggacga ttcggagagc 180  
 gtcaacagta tggatgaaga agactttggc aaagaaagt cggattgga agtcctttt 240  
 gctatgtttg agacagtcac ctaaattgtt tatggtgact tgtatatagt agtttgtgag 300  
 ttatcgtaac acattgggta aaaaatgaag tgttttacta tttgtttacc acgt 354

<210> 37  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-E9  
 <400> 37

aagaaggaa c aggagggaag aatcgctgctc gaggaagaa cgacagtga gaagaaaagc 60  
 gggaaacttgt gacagtagaa gagggccaag aatatgctga agtgactgc atgttgggaa 120  
 acggacggtg tgaagcttta tgtttcgacg gtactcgaag gctatgccat atgcgatgga 180  
 agatgagaaa gaacgttttg attaatgccg gagatactgt ttttaattggc ttgagagact 240  
 atcaagacga gcaaaccgat catatactag agtataatcc acatgaagtt agagcattga 300  
 agtctcacgg agatcttcta gacaccacga aaatcaacga acaagagggt gaagaacgag 360  
 aggacattac gtgtgaattc gatgatgtac atgcagtata atatccatat ttcttg 416

<210> 38  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-F12  
 <400> 38

gatagaagag gaatggagaa gatgggagag gataaagcag agtagagaag aggaggaggt 60  
 agaagaggag ttgaagtaaa aggtaagaaa gaggaaggt ttacgagaga aggaagtaga 120  
 aagaagagag tgtaaggcgg cgtcataata gaaatccgaa aggagtagaa gaaaagagag 180  
 agaagaaaga aaagaagaga aaagccgtac tgaagaccga cacagggtact cgaggagaaa 240  
 ggagacccaa attaaggtga gagaatggac gataaggaac taggcaaaag gatatggtat 300

ctgcggtaga acatatgaaa gaagcagcac cgactgttta gcaaaaacac agcactctgc 360  
 agaaaagaga aaatgtaaag tatagagtgt gcggcctgcc aaat 404

<210> 39  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-F2  
 <400> 39

cagcggtaac cctcaactat cctagtgaaa aacgacctct ttctcctcgt tttacagggg 60  
 aacatgctct tagaagatat ccatccggag aggaacgctg tatagcttgc aagttatgct 120  
 aggcaatttg tccagctcag gcaataacta tcgaagcgga acctctgcct gatggttcaa 180  
 gaagaaccac aagatatgat attgatatga caaagtgcac atattgtggt atgtgccaaag 240  
 aagcttgtcc tgtggatgcc atcgtagaag gtcacaattt tgagtatgca acagaaacgc 300  
 acgaagagtt gctgtataat aaggaaa 327

<210> 40  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-001-Q1-E1-F8  
 <400> 40

agctattcaa gaacgtaaag ataggacgaa gcgaagggtg cgtattcagt tgataggaga 60  
 gaaccaagtg gataatgcaa cccgcaagct ggaaaagtta ttatatgcac atcaaggcac 120  
 gtacaagatt ctcgaaagta gaacgttgga aagggcgata gagtttatgg tcgaactttc 180  
 cactgcagaa cgaactgcta gtgttcttcg ttctttggaa cataagaaac ccacagtggc 240  
 tgctcatcca attgcgacaa gtggctcgtc ctgattattg ttgttattgt catcatcatc 300  
 atccacacca canaaagaaa tgcaaagtgtg tgttctttct ggccaactca ccaaaaaacg 360  
 caaatccaac tatgcggagc catgccaaagg ttgggtggtg tagttgtcat ctttttttga 420  
 aaacacaacc aac 433

<210> 41  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-001-Q1-E1-F9  
  
 <400> 41  
  
 attgtaccta gcttgacccc tgagaaatac tctcttttga aatattgtat tgttttgttg 60  
 tccttggtt tgactccaat acttgtaaga ggtattcagt gtcttttcta tcccaaattg 120  
 atttgttctc gtcttcgtac tttgcgatac gaaccgaaag agctactact aactagtgtc 180  
 ttgttattcg ttcttttgat tctgaatgtc gttttcctta taagaatggg aagtaatgcg 240  
 atgcacaagg cagatgcaac catttctttg gaagcgaatg gattgaatcc tcctttacgg 300  
 gtaatgactt ataacatata aatgggattt gatcgaagag gggaaatgaa ctgggaagaa 360  
 ttggtggata tcatcaaggc cgaagattcg gatattttag gtcttcaaga 410

<210> 42  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-001-Q1-E1-G1  
  
 <400> 42  
  
 gttactaagc cggatgttag gaggaatata aggatgtggc aatagatgta gaagtaagat 60  
 aataggagta ataatggaag gaagaatgca ctcaagaata cgcacgataa taatgatgtt 120  
 aataagaata ttattgagta gagaaatgaa tgaggtaata aatgtgattg taaatgtgag 180  
 tgtaatttag agtgagtaa agagtaagaa gaatatgatg aaggatgtga tgaagggaga 240  
 gatagagata gaggagtgga ttgagaaatg gattgagata gagatggtag aggtgatagc 300  
 atgtatagta gccatttggg gcaactacta gtgcaatctc tattgataac gctgattaaa 360  
 aggagggaaa tatggatgga tatcatgata atttacata 399

<210> 43  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-001-Q1-E1-G12

<400> 43

ctaatagatg tgcttcctcg ggaggggaaag gtaaacagag ccattgtgga tacgcaacac 60  
gactgggttg taaatattgt ggaacaatac gatatttcta tggaagatat tcgaaatgga 120  
ctttacactg gaaatgaatt gacttcgatg aacatatttg cttttcgacc tgacatatatt 180  
ggttttatgg aaaacaaggt tggctcttgtt ggtttttgga aatggaagaa acattttgaa 240  
tatcaagagc cgatctttgt gactagtgtga agcgttggtt ggaacagaat cctcatgaac 300  
caagcaagga atatatattg tccactatgt tgaacgattt gtatgcagaa actggaaagc 360  
gaacccgagt gtttgaaaca agaaatgttc ctttagaatt gaccaat 407

<210> 44

<211> 149

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-G2

<400> 44

gacaaatggg ggaatgaagg ctcaagcggg aacaattgct acaatcacag aagtggacgt 60  
ccaatattct ccagtctaca gcgttgggta tggcgatgga gtttatggtc tatctttcca 120  
ctgcagaacg aagtgcagggt gttcttcat 149

<210> 45

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-G3

<400> 45

caaagagaga tcgtttgggt gccgactttt gtatgaacga caacaacagc actatacaag 60  
tatggtttac tgcactcaac ggaacttgca agatagttat actcacagct gtgggattct 120  
acttggcgta caggggcaga ctgaacaagg aaatgtccaa aaatattagt agcattattt 180  
ttgagatttt acttccttgt ctcttatttt cctctatttt acgtactttg gtgaatgtgg 240  
gcttatatgc cctgtggtag attccactta tggccctggg atatctttgg atgggttggg 300  
tattgggtca gttggtatgt aaatggacaa aaccgccacc tttttttaga atggcatgta 360

tcgtaacttg tgctcttga aactccaatc ag

392

<210> 46  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-001-Q1-E1-G6  
  
<400> 46

cccacgcgtc cgccacgcg tccggacaag tacagcgatg acctcctcaa acttttagcat 60  
gagaccgaca atattaacaa agttaatgcg gaagcaatcg cagcaatcga gaaattggag 120  
caccgacact aaactgtcat ttgaaagcgg tacaaactat caaaatgatg gaaatcttgc 180  
aacatccaaa cacagtcaag gcgttggtcg cttgagtgtg agaggcgacg ccccaagtgc 240  
cgcgctttct ctatcgagat tcaaacgcca agcagatgat gagttacaaa catcaacaaa 300  
tactttgaaa cgtagtagga aatccttgag gttggatgag accggatgaa ccttagtctt 360  
ttgagggaaac tttggttgtt gtaacaataa gatgttggtg tgaacctttc gcagttgata 420  
ngaaaatgtc gagttgtagt ttccttccc 449

<210> 47  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-001-Q1-E1-G8  
  
<400> 47

aattcgagca acgatcacgc tacaaggac cgattgacga tgcggttttc tctataacct 60  
tgatttttgc tcagtatttt tgggccaatc aattatattt gttgtgcacc tgtagctctc 120  
gtatgattat ttggtgcagc ggtacatttt ttggctgttt caatggaggc aagcttcata 180  
agtgcagtct gttttaaatg tttttcgaaa acggtttcta gtgtttgtca taggcggagc 240  
actctgcgtg gcttagaacc agttacggct acgagtacta tactcgaaag agatccacaa 300  
cgaataaaga actgtttcta tttaacctgtt tcaatgaaac tttcgatga cgccacaaaag 360  
ctacttggtg tgacgggaaa taatcgtgta ggtttgagtg actttactgt attatgaaga 420



ttcacccggtt tttttgggta ggaactca

448

<210> 48

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-G9

<400> 48

atgatggact tgggtgtccaa gttgactcat gataatgata gagaagttgc atatgcagct 60  
atcatggcgt tgggtttttat tggagctgga accaatcatg ccagaattgc tgccttggtg 120  
cgacaacttt ctgcctttta tgcaaaagat tcttctggac tgtttgcagt tcgaatagca 180  
caaggcattc ttcatatggg aaaaggattg ataacgctat ctcccatgga caatgagcgt 240  
ttttcgatat atccaaatgc tttttgtggt ttgtttacta ttatctatct gtgctgcgtt 300  
tcacaacaca cgcttttgaa taagcatcac tatttggtat atttgttatt gttggcagct 360  
cgtcctcgaa tgttgtacac agtcgatgag gaaatgaagc ctttg 405

<210> 49

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-H10

<400> 49

cccacgcgtc cgcccacgcg tccgcatgag cgtcgcggca tggataatac ccagttcact 60  
ggcactcttt ccaagaaaag atatagaagg gagaagaaac attcgagttg tgaacagaca 120  
gaaacactgt actttttgta agaattgcag gtggaaacga ttctctgtca ctttaatgag 180  
catggagaat aacaatagac agcaaaactac cgttcactc acgactcttg aaaccaacag 240  
agtaccagag agttctaaaa acaaacattt ttatgtcaag tttcaaaaca tacccaagtc 300  
tttaaaagat atggagtttt tgacttttaa gtggttaagag cagtgtcat ggctcctctc 360  
taatctcagt tttctggaag gaaaggaaag tacaatatca actattttg 409

<210> 50

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-001-Q1-E1-H11

<400> 50

```
cccacgcgtc cgccacgcg tccgcccacg cgtccgccc cgcgtccgtt tcctcttgag 60
gggaaaattg tgggtggctg gtgaaaacca tgggtggcagc ttctccttct cgcaagttgg 120
aaatacaatg tggagtattg aaaaggtatc ctagattctt tgtggatgag tgtgcaacta 180
agaaaccagg aaagaacggt gaaagatata tccgcttata aaaaggagtt taccgagatg 240
aaggagcana tacaacgggc aacacccgat taaccatata agcaatggca aaaagtgttg 300
gaagaaacgg agagaatggt atcggactcg tataggaggt tatcggaagc ggtagacagt 360
ttacaaaagt tgcaaacgca gatggaaaat ttgcgaggga acaaagaatg gga 413
```

<210> 51

<211> 438

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-001-Q1-E1-H2

<400> 51

```
tccggctgac cncacgcgtc aactattcgg caaacatttc ggctaattgg taggcatoct 60
tccaattctt ctggaaagga tttttacata attccggtac cagttaaggg aatcacaatt 120
tggcgtcgct ggaactattg tgagtaatca cggtgctagg caattggtca gctctccagc 180
aacgatcgat tgtttagact ctgttgtgaa aggcgttcgg ggtaaaatac ccgttttatt 240
agattccgga gttcgtcgcg gaacagatat tattaaggct ttagctttac gtgcacaagg 300
agtgtgtggt ggtaggccga tattatgggg actctcagtt gcaagcgatg tatgcgtcag 360
gcgagttata gagctgtttc gcagtgaatt cgacctcgac atgggacttc ttggttggtc 420
atctaataca gatatccg 438
```

<210> 52

<211> 419

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-H3

<400> 52

ggcagatcat gtcggtctcc tttgtggacg taggttgttg gacaatcact tcacggactt 60  
tgcaacaagg aaaagatttc aagtacacag ggaaagggtt caagtgttgt aagtatcctg 120  
tacgaagggg ttgtacaagt cgtccttcg ttgcgggggt cggctctgtt tctcgtctag 180  
aagggaaaaa cgacttgttg gagcggttcg atgccagttc aaagtatttc aacaaaaaga 240  
gaaacgacag agaaccagat ttttatgcga acttggaac agttatcgaa actttgagaa 300  
gcgactatgc tcacattctg gagaaggaaa ttgacctttc ggtttatgac gacaacttaa 360  
tattgcgaga ccgcatgcac ggtcaatact tacaagggaa ggaagcgtac aaaacaata 419

<210> 53

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-H5

<400> 53

ccaacgcgtc cgcccacgcg tccggggcaa tacgggaaag cagtaaaaga agaaagagaa 60  
aggaaaaaac tgagtatcag gaagaaaaga gggagtagat gaggaagaa agatcaagga 120  
agtaagagta agagaaggag taatgtgaat gaaagcagga aagtatttga agaagagagt 180  
gtaaagcgcg taccttttgc aaaatgtccc aacgagtga agaggaagca aaaagaaaga 240  
aaaagaagta gccaggtaa acccgaagct agttgatctt atgctgtcca agcgaagtaa 300  
ggctgaacca gtatctgtgg aaaaagattt gggagaaatg gcataaaggg tgaaaaggca 360  
atcaaagcta atgaaaactg ggactcctcg aaagctagaa ag 402

<210> 54

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-H6

<400> 54

ccacgcgtcc gctctttggg aagcatgacg tctatttggg aggcattcaa acaactcctt 60

tatcattaca aaaacacagt tccttaccac ttaaagggtta tcgacgcttt tctcttgtat 120  
gtcttttcta ctgctgccat ccagtttggt tacgtcttgt tcggtgggac ctttcctttc 180  
aacgctttct tggcgggttt cttctcgtgt gctggagttt ttgtgttgac aggtaaataa 240  
tacagggata ctatatagct gcggtttttt ccctcacgtt atttatctag tggccttgcg 300  
catgcaagtg aatccgcgga atcagaacgc agccaatcga tgggaaaaag tgaacccta 360  
ccgtgcttat gtagaatggc tgttttgtaa cttgattttg catattgctg t 411

<210> 55  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-002-Q1-E1-A1  
<400> 55

gtaggtggct cctattgata gacagctggt atgtccttta ataaactggt gaaaacattg 60  
gctgatagat atgcgtctca agcagttccc acaaagactg tggaagggtg ggaaacaacc 120  
gctgatttac gaaaaaagtt gattgcgact catattaacg ctctccctgt tcgtttccaa 180  
cgcgcaagag aagagttgaa ggattttgta caaaagactc gtacgttgga ctttacgtat 240  
cttgatgcgt ttcgttttggt tttccgaagc ttagagttgg cgcatggta ctggatcgga 300  
aagaccttgg gaaagaggga acttcccaac tcgatatgaa gtgtgtcttc ggcacctctt 360  
cttttctcgg aaatacaagc ttttatgtgc tcgtgt 396

<210> 56  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-002-Q1-E1-A10  
<400> 56

accacacagt ccgtgtacag ggaagtatga ccagtaatg angagtggag taaacagaan 60  
aggaagtaan aagagggaat gaagggaagt tatggcaaaa acacgtgcca gcagcagcgg 120  
taaaacgtgt gtagcaagcg tagagcagaa gaactgggtg taaaggtcga gtagtagagt 180  
aagtgtaaaa gggaaaggaa aggagagaaa gaggaagggt atgaaatgca gagatctcta 240

gagaaaggca agaaagaaaa gaaaggaaga cacagtaa at gaggcgagaa agcatangaa 300  
 gtgaaacgga ttaagaaccc gtgtagtcta tgcagtaaaa gaaagaatga gtaagaaaaa 360  
 agggagtc at tcccacagng gagtaaangc gcaagaaaga aacc 404

<210> 57  
 <211> 314  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-A11  
 <400> 57

gcgtccgacc acacgtccgc ccacgcgtcc gagagtcgac agaagaagaa cctgaagttg 60  
 tgggtgttca agttcgaaaa aaggaaactc ctaaagcggc tgcttggaag agaagttcat 120  
 ttcattatca aaagatgtta cgagatgagg aaccgtggaa acaattgtat tatcatgtat 180  
 ggaatgaaca caagtccaag tctgtagaca aagtttgga acaatttgca gttgctccta 240  
 gtgaacaacc acaagagaac aatcaccttg tggaacagtg gatggatata gccgtttgga 300  
 aagaagagaa taat 314

<210> 58  
 <211> 125  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-A12  
 <400> 58

acggacacgt ggggtgcaagt ttgcgactac aaatgtgcca acttgcaact agaggacttg 60  
 gcacaagaac atctttttcca tttattttcaa gtttgaaaac aaaatatttc tcgactttac 120  
 ccttg 125

<210> 59  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-A2  
 <400> 59

cccacgcgtc cggatggaga aggacgagca tcatgcagtg gcaagggaaat tggctaatacg 60  
catgcgactc ggcacagtat ttacagttcc cgagagaaga ctttgctagt gaagaagaat 120  
ataataatta attagaagct tttgaagatg ctgtatatag tttgcgtgaa ggaaccaaca 180  
cagatgaagc ccaagcaagt atggagagac ttgcaaagta tatcacatac actattacat 240  
aacaaatact catgaatcca gttttgattg tggatgatga gagcgaagac aagaataatg 300  
agagtagcga acaacaagga gtgacctttg tagatcctgc aagaccagca aagcctatgc 360  
ctgctccttt acgagacaac agtcctgtgg atgacaagat gc 402

<210> 60  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-002-Q1-E1-A3  
<400> 60

taccgaacag gtattcgcg caccacgcg tcagcgccat tgagcaccgc tgatgggacg 60  
tgtaatacga ggccagagaa agggagccgg tagtatattt cgtgcgcatg tcgtcaaaag 120  
aaaaggagca gccaaagttta gagcgttgga ttatgccgaa agacacggat atctaagagg 180  
agtcgtcagg gaaatcatac acgaccagc aagaggagct cctttggctc gagtgggaatt 240  
tagggatccg tatagatata agagaagagt agagactttt attgcaccag aaggtttata 300  
tacgggacaa ttcgtgtatt gtggaaagaa agcccaacta gcaatcggta acgtccttcc 360  
acttggttcc ttacctgaag gaacagtcgt ttgtaacgtc gaaggtaaaa ttggcgatag 420  
aggaaaaatg g 431

<210> 61  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-002-Q1-E1-A6  
<400> 61

agcccacgcg tccgggagaa cgatatacctt cgtatgcttg gcgaagtata ttttgagaga 60  
aaggattgga gcaatgccca tgcctagttg agtcgttggt tgcacagac aagtctagga 120

gaatcctcgt ctcagctgca tcaaccacag taatgtacga ataatgagat attttgtttg 180  
tagttattgg actgcatcga aaaagaaaga tggcaaattgg aatattgcgt tgtcgttggc 240  
agtaaaaggt aagagatgat tgcattcgtg tgcatttggg gtcgagtgc ttttggatcc 300  
aacttcagct cctcatgacg aatatttata taaagctgag tcgtttcgac gacgcatata 360  
gctctcttat gaatgttgcg gaatgtatag aa 392

<210> 62  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-002-Q1-E1-A7  
  
<400> 62

gggataatga taataggagg gatgatagta atgttaggta aaaggaggag agaagaggag 60  
ataataataa tgcagatgag tgagggatat aagatgataa tgtggatggt atgtatgggt 120  
aatatgggag tgccgttaac gagtgggtat gtatcagaga tgtggataat gtggggaata 180  
atgagtgtga gtaaggagat aggagtaatg atgagtataa gtatgatatt aacggtagtg 240  
tatacgatat ggatgtataa ccgagtatat aagggaataa ggaaggagta tataaagaag 300  
gagatggaca taagtaggag ggagtataac agtataagtc cgtttagtggg aataatgata 360  
ataatgggag tgaagccaag tatatggagt gaag 394

<210> 63  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-002-Q1-E1-A8  
  
<400> 63

cccacgcgtc cgggtagga ataataaaca ggggagtaga agaagggatg aaagagaaat 60  
ataggagtat gagaaagaag gaggagaagg aagaggaaag aaggagtata aggagagaag 120  
taagtaatag gaagagggaa gtaaaggagg aggaggtaaa gatgaataaa agagagttat 180  
ggtagtagga ggagtaatga tgccgataat aggagggata atagggttag gttatggaag 240  
aaagatagga gtagaaggga gtagtaagat aaatataagg agtatgagat ggagtgtggg 300

gttgataagt atggagttat atgagagtgt aatagaggga gtaaagaagg aagtaaaaat 360  
atgggagtg atgagggacg gagtagagag 390

<210> 64  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-002-Q1-E1-A9  
  
<400> 64

accacgcgt ccgcccacgc gtccgcccac gcgtctgccc acgcgtccgg attcatcaga 60  
agctttctgg tcaacaacgg cctctgggtg ctctcgtttc tttatgtgta tttctcaggg 120  
aatatttaga catagcaagg aaggagcttc aagaatccaa cgaatacgtg ttttatctac 180  
aaaatgaaac caagtctatg aaagacgtag aaccagggga tttggctcaa cgtcgtataa 240  
agcagctaatt attgcagaaa gacaaacttt attctctctt ggatgaattt ggtagaagat 300  
ggcatcaaca cttggtcaaa gaatttcctg angacgaatt tccttgggta gtaacaacan 360  
aagaggagtc ttccatgttc actagggacg ggaaaa 396

<210> 65  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-002-Q1-E1-B12  
  
<400> 65

gacggacact tgggtttgga actaacttga catgcaacaa attaaccttc gagtatccaa 60  
accttctttg ggggcaacct tggtcctcat tcaaagtata atcctgtgca attcatgcag 120  
taacagccga tgaaataaca agtttcgaga gaggatacca nacagttgca ccaactcaga 180  
cgcagcaatg tcaaaaagatt tgtgtcaccg ccacacaaac tcaagttcaa agttgtatatt 240  
atactcagac acaggctccg ttcattgtctc aatgtgtcac agcattgcc aactacctgct 300  
ataaatacgt aacaaaatat aagcaagtgt gctgtgagca agaatacag caacagaatt 360  
atcaacagca gcaggtttgt caacagtatt gccaaactatc ggtacagcag 410



<210> 66  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-B3

<400> 66  
  
 agagggaaac atgtcgaaga agcttctgga agactttatt gtaaaggggt agtggtgggt 60  
 tataaaagggt cacaacggaa tcaatatacct agtcaaacca gaatcaagat acagggagtt 120  
 gaagatcgag cttcgacagc gttttattta ggaaagcgtg tggcatatgt ttaccgtgca 180  
 aagagaccaa gaaagagtgt tggaggaaaag aaaacaaaga ttcgagtgtat ttggggaaga 240  
 attattgcac cacatggtaa tagaggagta gtacgtgccca agtttcgaaa caacttgcca 300  
 ccttctagtt ttggcaaacg agtaagagtt atgttgtatc caagcaacgt ataaacaagt 360  
 gctttaaaat tttaaaaacc aancaacgaa aa 392

<210> 67  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-B4

<400> 67  
  
 agaattaact ccggaacggt ccgatatnnt gctgcgggct tttgttgat ttggttaaaa 60  
 aggtttccaa aaaaattgca acgggattcc ccgtaactgt aataatccaa gtatgggtcac 120  
 gttaaaaagt tagctgacca gattgctgaa ggagttcgtc aaaaaagatg tgaagttggt 180  
 gtataccagg caccagaaac actttctgaa gatgttttga aactattaaa ggcaccacca 240  
 aagccaagcg accctgtatt cacctttgac aagcacagcg ttttggctga agccgatgga 300  
 gttctatttg gctttcctac acgttttgggt atgatgtgtg cacagatgaa agctgttttt 360  
 gactctttcg gacatctatg gcagagtgga gcttttagcca ccaaaccggc 410

<210> 68  
 <211> 402

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-B8  
 <400> 68  
 agaggaatgg tccatgtccc accaacaaca acaacaagaa gatgatggga caacctcaag 60  
 gctagcgtct ttgaaaagtt atgattggga tattttaccaa cgtatcgata acctggagtg 120  
 gttgaatagt gagcaaaaga caatgtggaa agactgggtg gtagaattga aaacgagatg 180  
 gaacgacgct ttggaacact atgtgagtcg catggtggaa gagttgaaac aacaacaccg 240  
 attccgtaca gtaacggagg aagaaagaca ggcgttgatt cgtccaattg tacaagcatt 300  
 tgaagatgct tggaagagaa ttcgcaagat gatggtagaa gatgggttga atagaatgag 360  
 gagggagacg agagccagta agagggcact tgtcagtggtg tt 402

<210> 69  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-C1  
 <400> 69  
 cccacgcgtc cgaaaaggag gtaatgaagg gaagttatgg caaaaacacg tgccagcagc 60  
 agcggtaaaa cgtgtgtaca agccttnaac aaaagaactg ggttttaag gccattata 120  
 aaatatattg taaaggggaa aggaaaggag agaaagagga aagggatgaa atgcagagat 180  
 ctctagagaa aggcaagaaa gaaaagaaag gaagacacag taaatgaggc gagaaagcat 240  
 aggaagtgaac acggattagg aaccctgtga gtctatgcag taaaagaaag aatgagtaag 300  
 aaaaaaggga gtcattccac caggggagta aaggcgcaag aaagaaaccc aaagcaattg 360  
 acgggaatcg gaaaaagggg tggatcacgt aaattaatc 399

<210> 70  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-C10

<400> 70

accacgcgt ccggaagtt gaggctttt gtcatttggt atataaaggg aaaagattgc 60  
ctactgaaat gattcaaata aggactgtat taaaagtact agacaactca ggacccaaaa 120  
cagcaagatg tataggaatt cttggaccac ctaaaaagtt tgctactgtc ggtgacaaga 180  
ttgtagttac tgcagaggga aaagtttacc acggaatcgt cgctgttgtt aagggtgaaa 240  
agaagagacc ggacggttcc ttgtgaagaa tcgaccagaa cggagtcatt ctagtagatt 300  
caagtggaaa gccagtggga aacagagtat ttggtgtttt gagcagtaga gtgaagcaac 360  
cggaatttct ctcttgnga cgcgttaaaa ccatgtaagc tttaatatg 408

<210> 71

<211> 420

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-002-Q1-E1-C11

<400> 71

caaacttcg ggaacaagaa aacggcggcc ttggtggatg gtacaaggct tttggctttc 60  
aaaaccaaat tacggcaacc ctaaaaccaa tccccgaaa aagctaaaat tccagccaat 120  
catatggaaa tgctggagcg tcgggttacg ccgatgtatt tccattatca acaaatattc 180  
cagagattga agtagggagt gctgcctcct ctggagacgg ggggagagct cattcaacag 240  
agtttgccac gtattcgag ggctactcat atcaaactcc ggagtacttt cctgaatttg 300  
tgcaaccttc gtctaagaa gactatgaat acgtcgacc ttatgggaat ccggagtatt 360  
attggaaccc ggagtattat tggaaccag aaggattata ctaccaagc actactaatg 420

<210> 72

<211> 416

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-002-Q1-E1-C12

<400> 72

agttactttt aaagatgttg ctggtttaga tgaagctaag gtggagatca tggagtgtgt 60  
cgatttcctg aagaaacctg agaaatatcg cagattagga gccaaacttc caaagggtgc 120

tttgttggtt ggtcctccag gtacgggaaa gacgttactt gccaaagcta ctgcaggaga 180  
 ggccagcggtt ccattctttt ctacaagtgg ttcagacttt atagaaatgt ttgtgggagt 240  
 tgggtccaagt cgcataaggg atttatttgc acaagccaga gccaatgcgc cttgtattgt 300  
 atttatcgac gaaattgacg cagttggacg tgctcgaggc agaggtggct ttgtggagg 360  
 aaatgatgaa agagaaaata cgctcaatgc tttgttggtc gaaatggatg gattta 416

<210> 73  
 <211> 180  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-C3  
  
 <400> 73

acgaaaaaca agaggaaatc ctttctttgg aaaatgagca aatangaata tatggatttt 60  
 acaagacaag ccacttgtga aaaatatgcc aaaaaggca tcttgtggac aacgttggtc 120  
 gccttgatcg ttggactagt cacagacgat tacctgcgaa tgggtcaagt atttaaattg 180

<210> 74  
 <211> 283  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-002-Q1-E1-C4  
  
 <400> 74

ttgggtttct tttctttggt atattttttt tataaaaaat tttctcttta atcactatca 60  
 taagtatagc tggatatgcca taatccgcat cttgtgggtca acgtatggct gcttgatcat 120  
 tggcctagtc acatatgatt atttgcgaat ggttcaagta tttatattgg gaataatttt 180  
 tgtatctatg ggcttacttt tctcctgac atgggtataca tgacatccac ttgtgtttgt 240  
 ccattcagca accaaaatta tcgattctaa cagccattct taa 283

<210> 75  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-C5

<400> 75

taccgtatta ggaattccgg cgtcaaccaa gcgtcagcga gcctgaaaga ccctggtggt 60  
ggagggttga tgattctgca accactgccca ccaaactgaa gagtagagta gatgtttctc 120  
aaaatagact gcctttatcg gaaaccttat cacctaagga ttcttatgag gagtttccca 180  
actggtttct agtagaaaaa caacgtctca gtgagctcga agagaaaatg aggttgtggt 240  
tgttttcgat ttgttattgt ttggtttttt aacacttggt tcaaaggac tcgacgattc 300  
aggatgtgcc tgttctaaag gctttgatgg atacgaaaca taactgaatc atgtatcaat 360  
atgaaaatgc taacttggac ttgatggaac gtatctatcg aatgaaaatg ccagagtcga 420  
agaactttgg atgt 434

<210> 76

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-C6

<400> 76

agcggacgcg tgggacggac cgtgggtagg aatttcgaaa ccgtcgtttc agtttgtggc 60  
ttgcttttct tttctttcat gaatgagcat agactttgga cacacttgac gatttcaggt 120  
ttggagcagg tgtagacct ttctcctcgt ttgggattcc ctgtgttacc tgtgatcggt 180  
attttacaca cactaaagtc gtcaagggtg ttggtttcgaa actaaaaggc cttcgatccc 240  
ctgcattatt ggtattctac aatggatgac gaagttgctt cacttgcatc ctctttattg 300  
ctcatggtgc agttatgttt gaaaagtcca aactctatat gcctcatgag ttgggtttgcg 360  
gtcccgctac ccagcaagat ggccgcctcc atttt 395

<210> 77

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-D1

<400> 77

ggacaaaacg ttggtgcagc aacaacaaca gtttgggttt tctagttgcc attcactgag 60  
 tacaacgtgc attgatcagc tagtacaata acacaatggc gttgctcaat cttgttcgcc 120  
 tgtctcgaag attttaccgc aacgaggctt cggtagcgga aaggcaacag agtatgatgc 180  
 acagcagtct ccacgtagtt gtctgttgag ctccacatga tcaattgctt ccaataatgc 240  
 atcgctttca ataataggaa ccatttcata gtgttaataa atggaagcat agcatctcac 300  
 caactctgca ttgacttgga tagcaagtga aggactatga tcattcaciaa tacgaaaagc 360  
 tggtttccat ttggttaagtt ttgctccttg tttc 394

<210> 78  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-D10  
 <400> 78

aggcattgtg ccgtcgaatt ctccgcaaag aggttagaag agctctaaag agtcttctgg 60  
 cgcaacagag aatggatgca ctgaaatgtc atcctacaga gaaggatatt gagggtcgcg 120  
 aagtgaagcc gttgattgac gactttcaac aacgcaagat ggatgatagt gagcacgtcg 180  
 gagtcttcac gaatcgaatg agaaaaggaa gaatctcagt tccacctgaa acgactgaga 240  
 atgccgaaaa cagttgttct gaccaagtaa ctaccgagat ggaagagtcg actgcagcac 300  
 aaccggaagt tttggatgtg gataaggaag aaaacgagtt tactcaagac tttgatgagt 360  
 tggaagaaga gaagaacaat gatgacggca gtgaatgtaa tgaagaggac tc 412

<210> 79  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-D11  
 <400> 79

tggcaacctt ggtccaaaa gctccccggg caacaacttc tccttaacc aacaacaaag 60  
 gtgatttctc cccaagaatg gagcctaact tcacaaaaag cagtgccact gcaacaacaa 120  
 caccggccac ctaccggagt agcaacacaa gcgcctcctg agccacctcc acctcctccg 180

ccaatcacca gtactcgagc tttagtgaca ccttcaggta ctttcacagt ataagaaccc 240  
 gggtccgcaa aggaactgct caactcgaca ccagaatgct ctcnctgagt tgcagaagag 300  
 acatcagagt cattgtgaaa aagacgttcc aaccagtttt cttccaaata tccttgaaac 360  
 tggacaatgt tactcccttg ctgggactcg tacaacc 397

<210> 80  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-D12  
 <400> 80

acggacacgt gggctcgttg ttgtctttca cttgaaaatg gtatacaagt tcagaacaaa 60  
 tgttatgaaa atgatggaaa agggaatctt ccgaaaggca aagtggatatg atgttgtaca 120  
 gaagtaccct ccgttggctc ctccaggaaa tcgtcgcaaa cctcctcgca tcgttcttga 180  
 agaagatagt ttgtatgaag aactatacga gaacattcca caactacagt atactcctct 240  
 gaacattggt cagtcacttt atggagacag gaacgtatgt gataagtttg tttattttca 300  
 aaaattgtat atggatagca agggatagag taaaaaggag gcttttgaca cagtaagaaa 360  
 ggaacttgat aaagaactgg aagaagcact tcgccagtcg tcctcactgt attggaatgg 420  
 g 421

<210> 81  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-D2  
 <400> 81

agggcttgga tggcagtaaa gttttggcgc actttcctcc tgctgatata tacaactctt 60  
 tgggaaccgt ccatgaagcg cttttatctg tttcaaaca tcaagaaatt ggtgtttata 120  
 acgttctct tatgttgttt ggccacggag atggaggagg tggaccact cctgccatgt 180  
 tggagagtcc ttctcgtag cgagacttag caagcctacc ccaagtacat ctggatagga 240  
 cacctacaca gttttttgaa gaaatgcaga agcaccaaga tgagctacca atctggtttg 300

gtgagttgta cttggaggat cacagaggaa ctttgacaag tcagtcgttt gtgaaacgaa 360  
acaacagaag agcggaagag atgatgaagg aaattgaac 399

<210> 82  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-002-Q1-E1-D3  
  
<400> 82

aggaagagtt tgtacgagcg ttctcgtac gttttcaagt ttccgatgcc ttggctttga 60  
ttcggttgga cgacttgttt gtggacagtt ttgagattcg cgacgtgaaa cctttacatg 120  
gagaccatca ctctcgagct attggtagag ttgctggaag agatgggaga atgaagttta 180  
ctatagaaca tgcaacgaag acacgaatag tattgacgga tacaatgggtg catatattag 240  
gttcatacca aaatattcaa tttgcaaaga atgcagtagt cagtcgtatt ctaggttctc 300  
cacctggaaa aatacacaat aagctgagaa ccgttgctgc tcgattgaac gagcgctttt 360  
gaagccgacg aaatgtcgaa atgtattttg tcgcttg 397

<210> 83  
<211> 340  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-002-Q1-E1-D4  
  
<400> 83

agaacacgcg tccggaaaga ggcaaatacg ggaaagcagt aaaagaagaa agagaaagga 60  
aaaaactgag tatcaggaag aaaagaggga gtagatgagg aaagaaagat caaggaagta 120  
agagtaagag aaggagtaat gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtaa 180  
agcgcgtacc ttttgcataa tgtcccagcg agtgaaagag gaagcaaaaa gaaagaaaaa 240  
gaagtagcca ggtaagaccc gaagctagtt gatcttatgc tgtccaagcg aagtaaggct 300  
gaaccagtat ctgtggaaaa agatttggaa gagatggcat 340

<210> 84  
<211> 397



<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-D5  
 <400> 84  
 tcataataga aatccgaaaag gagtagaaga aaagagagag aagaaagaaa agaagagaaa 60  
 agccgtactg aagaccgaca cagggtactcg aggagaaagg agacccaaat taagggtgaga 120  
 gaatggacga taaggaacta ggcaaaagga tatggtatct gcggtagaac atatgaaaga 180  
 agcagcacccg actgttttagc aaaaacacag cactctgcag aaaagagaaa atgtaaagta 240  
 tagagtgtgc ggccctgccaa atagtagaga agaaatcgat gaaagtgaaa gcgagtaaaa 300  
 gatgaggtat agagaatggc ggtcctaact gtaaggatcc aaaggtagcg aagtaaatag 360  
 acgtttgaaa ggcgtccagt atgaaaggag aaacgag 397

<210> 85  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-D7  
 <400> 85  
 agcccacgcg tccgcccacg cgtccgggga gtaagataga gttaatggga agggagatag 60  
 tagaggggaat agatcgtaag atattggaag aatgtggaag gaaggggagt aaggagataa 120  
 tggaggtaat ggagaaggga gtaagaagga ggggtaatgt gagtaagtat tcgatgggaa 180  
 tgataatagg gataataatg tggggatgga gttgtggata ggaatgataa gtccatggaa 240  
 aggagagaaa gaggaaaggg atgaaatgca gagatctcta gagaaaggca agaaagaaaa 300  
 gaaaggaaga cacagtaaata gaggcgagaa agcatangaa gtgaaacgga ttaagaaccc 360  
 gtgtagtcta tgcagtaaaa gaaagaatga gtaagaaaaa 400

<210> 86  
 <211> 359  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-D8

<400> 86

ggaaagggga acttgctatt gtttcggacg agggcgtcgc tccttatgag agacctgcac 60

tttccaaggg gttcctgatt ggaaacccgc ctgcaagact tccaggtttt catacttgtg 120

tgggttcggg gggagaacgt ttaccaccag agtggatatca agaacacggc attgatttgt 180

tgctttccaa tgcagttact agtgtcgatc cttctacaaa gaccttgaag ttgtcttcag 240

gagatacaat ttcgtacgat aagttgggtg ttgcaacagg atgttcggca atgaagttta 300

gtgatcttgg tttccctggg gcagattatc aaggcattca ttatcttcgt aatatacac 359

<210> 87

<211> 425

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-D9

<400> 87

accacgcgt ccgagacgcg gttctttagt aacaatttta ggaaaagtag ctaccggagt 60

atgggctcaa aaagggacaa caagggtctg ttctctatga tatatcacgg gttgatgtct 120

gctctttttc tgcttgggtg tctaactctt gttgggtgtg gaatatatgc tgaagtaact 180

cattctggaa agtttgactt ggattggacg agtagctttt ggagtgtgtg gacgaacttt 240

ggaatagctg ccatcatagt tggagccacg ttggcagtta ttggagctat tggttttgta 300

gcatttaact ctgggttttg tgggaaattc ttcaagttga tgtatttcat tcttttagtt 360

gcagtattcc ttgttctact gtttatggcc atagttacgc ttatgttagc caacggagat 420

aatgt 425

<210> 88

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-002-Q1-E1-E11

<400> 88

aaccaagcct tcgacggaac cttgggttaa cttggacctt aatcctggta aacaatttcg 60

aacaaaatgg tgccctgggt aattgccatt ggtccggtta tggtaaaacc aggatttgca 120

gggaacaatg ctccccgttc cgtcttccct tcaatcgtag gtcgnacaag acaccangct 180  
 attatggttg gtatgggaca aaaggaaagt tatgtgggtg atgaggctca gtctcgaagg 240  
 ggtatactct ctttaaaata cccaatagaa cacggatttg tcactaattg ggatgatatg 300  
 gaaaagatat ggcaccatac tttctacaat gaacttcgaa ttgcacctga agagcatcca 360  
 gtcttggtga ccgaagctcc tctcaatcca naggcaaaca nggagaaaat gactcagatc 420  
 atg 423

<210> 89  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-E12  
 <400> 89

attatgatgg acaagtagca agtcttccta cgctttactt atgaaaaagt cgacgagtgc 60  
 tgtgacaggt agaagaactt gggacaaggc ttttttcgaa aagaaaagtg agcaacanaa 120  
 gaaagaagaa gatgaatacg aaaagaacga aagagaacgc gccaaaaagg caaacagcc 180  
 acaagaaaac gaccagtttg cacctacgag gtcgtggctt gaaagaagag actatcagtt 240  
 ggactttgaa aaacgagttg gaaaggctac agtggtttct tctactgagag ataaaaatag 300  
 cggtttttac tgtgaaatat gtaaagtgtt acaaaaagac tccaacgcat atttaaata 360  
 cctcaatagt cgaatacatc agaagaactt gggcatgtct ttg 403

<210> 90  
 <211> 300  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-E2  
 <400> 90

agagagatcg cgtattgaat gctattcgaa agcatacagt tcctagtggg atgtttacag 60  
 aggagattga tcgatatact ggtttcgagc aaggagctat caatttaact tggagttatg 120  
 atgcctttgt tactgcggtt tggtcgagag aagatgttca caagttgttt tctaaatatt 180

gtgaacctcc ttctccacct ctacctagta tgccaggacc tgggtggttta tcttctccat 240  
aataagagggc acttgtgcac tttggatatt tttgtggttc acataaagac aagctttatt 300

<210> 91  
<211> 263  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-E3

<400> 91

cccacgcgtc acgaaaaaaaa aactgaataa aacaacacca aatgtaaaac aatcaactcg 60  
aaaaatcatt tggtagcagg tgcattgaatg ggattgccgt cccatctgtg ctctatgata 120  
ctgggctcga gcttacaagg tgtcgtctct tcaaggattt aaccgggtgt ttccatcacg 180  
gtctgacgct tttatcacat tccatcgtcg gtatttcctt ctttcgtag ccgattttat 240  
tcgccttgtg ccatgatccc tcc 263

<210> 92  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-002-Q1-E1-E5

<400> 92

agcaggatga gtgtcaggta tctccaaatt tgtgcaacgg cttcaagaag tcttttgtca 60  
aaggaatcta aagggttttg ccgatatattg cacgctacga aagtctctca ggcgtctaat 120  
gtgatgtgcc gagatgccct taacagtgcg cttgatgaag aacttgaacg agacgaaaga 180  
gtttgtatta ttggagaaga agtaggacag taccaaggcg cctacaaagt tactcgtggc 240  
ttgtatgaaa aatatgggtc aaggagaata gttgatactc ctatatccga gatgggtttc 300  
accggtttgg ctgtangagc tgcattcaac ggactaagac ctgtttgtga gtttatgacc 360  
tttaactttg caatgcaggc gatcgaccag atcatcaa 398

<210> 93  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-E7

<400> 93

agcccacgcg tccgcgttga gtccaatcgt tgttgtgggt ttttggtaaa aaatgtctgc 60  
tgaaccagtg ggaaagttaa actctgggtgc aactattcct cttcgtggct ttggaacctg 120  
gaaagctgag cctggagtgg ttggtgaatg tgtgaaaact gcttatgacg tcggttacag 180  
acactttgac tgtgctgcta tatacagaa tgaaaaggaa attggacaag ctttttcaga 240  
acttttctcc agaggagtga agagatcaga catatttgtc acttctaaag tgtggaatac 300  
ctgccacgat cctcaaagag tggcgaagc ttgtaaaca actctgcaag atttacgtct 360  
ggattatcta gacctttact tggttcactg gccttg 396

<210> 94

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-F1

<400> 94

cccacgcgtc cgcccacgcg tccgtgaaag taaaatcccg aaacactata ttgtctcacc 60  
tctcatatc gaaaggaccc ttggagaata tttggtgcat aatggatgtc gacgtctctc 120  
cataagtgag actcagaaat ttggtcatgt tacctatttc ttcaacggaa atagagcaaa 180  
caaatttgat gaggaactcg aactttatgt ggaagttcca agcagcagag aaagagaaaa 240  
tactcgtcct tggatgaaag cagcagaaat taccgactct gctttggcag ccatagatga 300  
gtttaaacct gattttgtag ttctaaacta tgcaaatgga gatatggtag gacatactgg 360  
tgattataat gcagctgtta tcgccatgga agcagtgga 399

<210> 95

<211> 424

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-F11

<400> 95

cccacgcgtc cgcccacgcg tccgccacg cgtccggggg cctaagcaaa aggacacaag 60

gaacttggag acttgcagat gtcattgtcg aagttttgta tcggtttctt taaacccgct 120  
 tccatcagag cagtgggtcac ttacataat gccacgttca agcgcttact gcacgacaga 180  
 gcgtttctta tggaggaagc ttcaggtgga gcacagggcg ctacgttga ttcaaaggaa 240  
 gtcaccgata gagttctctc cgtagtaaag aagtttgaaa aggtggatcc tgccaaagtg 300  
 actccgcaat cccactttgt gaacgatttg ggactcgata gtttagatac agtagaactt 360  
 gtgatggctt ttgaagatga gtttgctata gaaattccag acgcggatgc ggataagatt 420  
 ctat 424

<210> 96  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-F12  
 <400> 96

cgaccacgcg tccacccaag cgtccgcgga cgcgtgggcg gacgcgtggg cggacgcgtg 60  
 ggttacgggt gagttgtggt gctgtctaaa gatgcgtttc cccctgtgaa ggtgggtctat 120  
 ataagtcaac ttggaaactt taatactggt tatattcact agatattgtc aaaaagtagc 180  
 tctcgaaccg acgaccaacc atccacgcaa ttcatatcga gactgtcagc acaactacga 240  
 ccatgccaac catgtttggt gtgacacatt ggatagtcaa gcattttgag gaatccttgc 300  
 atataagaaa cgtgtgttcg ccgatgaaat tgaggaaaaa gttgtagttc tgaaatgggt 360  
 cgtactcgtg ccagcgtat 379

<210> 97  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-F4  
 <400> 97

cccggggcca accaagcctt cagacaaggc gtcggcaaaa gtataaggag gttactcagc 60  
 aagaatgccg gtacgtccaa aagtcgtatt gtgtcgagta tgaagaatgt cagcaagtta 120  
 cccaggaagt ttctccttca gaaattgtct actacggtga atcttcttct agcagtagtt 180

actactacta gaacacttgt gaaatgcgca aagtcgcaaa gtagagtgtt cttttttgaa 240  
 taaactgtta ctttttgtca aaaaataaaaa aaaaatgaaa aagaaaaaca atcataaagc 300  
 ataaaagaaa gcaaacaata acctgaaaag acaagtatag g 341

<210> 98  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-F5  
 <400> 98

agcccacgcg tccgggaggg aatgaaggga agttatggca aaaacacgtg ccagcagcag 60  
 cggtaaaacg tgtgtagcaa gcgtagagca gaagaactgg gtgtaaaggt cgagtagtag 120  
 agtaagtgtg aaagggaaaag gaaaggagag aaagaggaaa gggatgaaat gcagagatct 180  
 ctagagaaaag gcaagaaaaga aaagaaagga agacacagta aatgaggcga gaaagcatag 240  
 gaagtgaac ggattaggaa cccgtgtagt ctatgcagta aaagaaagaa tgagtaagaa 300  
 aaaagggagt cattccacca ggggagtaaa ggcgcaagaa agaaacccaa agcaattgac 360  
 gggaatcgga aaaaggggtg gatcacgtaa attaatccga tata 404

<210> 99  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-F6  
 <400> 99

agaaatgacc tcgagtggat ttgttctcgt ggttcctttt cagttgactc gcggtcgact 60  
 tgaagcaaaa tctcctaaaa aaagctttgt tcgcaagtct cgttgcttga acagttctcc 120  
 tctcctcct tcttgttgtt gtcaaaacaa gttgtccaat aaaacgtgtt gtgatagacg 180  
 caagtttttg aatgatttgg tatggacaac gaaaagtgtg gtggttaaca gtgcgagtta 240  
 ttttctcctg ggtaatacta ctgcttgggc agcgaaagaa gaaaaacaaa gtgtccctgc 300  
 agcagttgcc aatcaagtgg agacatacaa agacttggtg aaaggttata anatattgcg 360

gccgataggt tggaatcaat ttgctggaca acgaaaccaa 400

<210> 100

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-F7

<400> 100

agcccacgcg tccggctggt cctggtggcc ttattggagt cggaaccaag attgatccaa 60

ccttaaccag agcggatcgt cttgttggtc aagttttggg ttcatttgga gcattacctg 120

atgtatatca tgagttggaa gtgaatttct ttctgttgag aagactttta ggagtgaaag 180

tagatggtca aggcaaatta gccaaggtag aaaaactggc caaaggagaa gtattaatgt 240

tgaatattgg ctgcacaagt acgggaggaa gagtacttgc ggtgaaggga gatttggcaa 300

aactttcggt gacgagtcct gtttgtactc aagtgggtga aaagattgcg ctttcgagaa 360

gagtagaaag acattggcgt ctcatcggtt ggggtcaga 399

<210> 101

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-F8

<400> 101

agcccacgcg tccgcccacg cgtccgcca cgcgtccgcc actggtcatt gaggaagaag 60

cgttattcaa gtaagcaggt tgtcttggtg ttgtaatatc acagagaatt tctagttatg 120

tgaatcaaca ttcggaagaa tatatacacc gtttaaggga agccgttgct ctggattcag 180

ttagttcgga tccaataaaa cgctcacgtt gcttggatat ggccaactat atttgcaaatt 240

ggatcgaaaa attgggagga aagcctatcg taaagcatat aggcaagcaa acgtttcctg 300

atggccaagt tttggactat cctcccatcc tatttggaga ctttactggt ggacacaagg 360

agaaaacagt gctcttggcc tattgtcatt acgacgtcca a 401

<210> 102

<211> 343

<212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-G1

<400> 102

gacatgtcta gctggaagga acgactagac tcgtggattg gaaggagtag cagtgaatat 60  
tccaaaggtg gcaactcttc tccagaaggg ggttcatctc ctaaattggg tagcagtcct 120  
tcgaaactaa gcaaaagtcc tcgcgctcaa gaagtttggg gtaaaacagt gcatccttgg 180  
gggcgttctt actcaggaaa gaaacgttat gacaccgtgg agaaggacac agagaaggaa 240  
ccaagtatat ttgagatata tgatctgtcc aagaaacaga gtggcagcca ataagaagag 300  
agtttgtgag ttttcaatac aatactgtgc ttgttgtaa aaa 343

<210> 103

<211> 398

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-G10

<400> 103

agaggagata tttttcgcac ccagctggag actttgtttt gtatatattgg agaattttca 60  
tttcagcagt gtctcgTTTT ctgtaatgac aaatccatat tggatagata ttgttacgag 120  
ttgagaaaag ctggattctc tgcagatttt actagtggag atctgaaaca gtcgacgaga 180  
aatgaaatat ttcgacgctt ttatacacac aaaactcaag tcttgtttac aacggacctt 240  
ttggccagag gtattgattt tgtgaactgt aatttggttg tgaatttaga tattcctcga 300  
acaggagaga cttattttaca tcgagcagga agagctggac gctttggaag atttggaat 360  
tgtatcactc tctattcatc gacaacacgt tctgacat 398

<210> 104

<211> 225

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-002-Q1-E1-G11

<400> 104

ggccccgcg tcggccccgc cgtccgtcaa agccagaggt gcttcttctg ccgcttctgc 60

agctgcggca atagtcgata atatgagaga ctattggcat ggagctggtg accgatgggtg 120  
ctctgttaga attcctancg atggaactta tggaattgat gaaagacttt ggtattcatt 180  
gccggtaatg tgtcctgttg gacattatag acggttcttg aacct 225

<210> 105  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-002-Q1-E1-G2  
<400> 105

ttgggatgcc gcagaaaacg atgatgggat acacctctcc cgagcaagcg ctggtgcagt 60  
tagcatccat caagaaaacc accaaaaagt taaagaagca cttgcaaaaa tacttggatg 120  
aaacaaacac taagaacaca gaagatgcag aaccactgga acgtgcaaag gcaaacctca 180  
atttggcata tatatcggcg gcccttttct acatgcttct tcgagttcac ggggtggaaa 240  
cttcaggaca tcctagcatg gaagaactgc aaagaatcaa ggaacgtttt caagtgtctc 300  
gaaagttaat tggacaagaa gatactcgtt cactgggtat agatggtgag gcgacgggta 360  
ggatttttagc agccactctg aaagatctct cagcggacaa aa 402

<210> 106  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-002-Q1-E1-G5  
<400> 106

agcggacgcg tgggaggacg cgtgggctac aatgggaaag ttacaagtag gagacgaagc 60  
acctgacttt gagttgaaag accaagacgg taatatagtt aaattgagcg agttcaaagg 120  
aaaatatacct gtagtcctat tcttttatcc caaggacaag acgtatggct gcacacgtga 180  
agcttgcagt ttccgagata agatgtcggga atttaacgaa cttaatgcga aagttttcgg 240  
tgtgagttcg gacagtgtag agtctcacia gtcgtttgcc gatgaacaaa agttgacgtt 300  
tcccttatta tctgatgaag gcggtaaagt acgcaagcta tacggtgtac caaagagcat 360  
gtttattatg cctggtcgct gcacttatgt cattggtccg g 401

<210> 107  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-G6

<400> 107

agagaatggc ggtcctaaca gtaaggatcc aaaggtagcg aaacaagaga agggaagtaa 60  
 aaggtaagaa agaggaaagg ttacgagag aaggaagtag aaagaagaga gtgtaaggcg 120  
 gcgtcataat agaaatccga aaggagtaga agaaaagaga gagaagaaag aaaagaagag 180  
 aaaagccgta ctgaagaccg acacaggtac tcgaggagaa aggagaccca aattaagggtg 240  
 agagaatgga cgataaggaa ctaggcaaaa ggatatggta tctgcggtag aacatatgaa 300  
 agaagcagca ccgactgttt agcaaaaaca cagcactctg cagaaaagag aaaatgtaaa 360  
 gtatagagtg tgcggcctgc caaatagtag agaaggaaga agcag 405

<210> 108  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H1

<400> 108

cgatgacttt gacaaaaatg gctttcatatc gggattttgc tactgtggat ttgaattcca 60  
 gagaatggaa aatgagtatc tcagaaagag ctttcaatta agggaagaag atggaggtgt 120  
 tctggtgaaa aggattgctc ccatatctcc ctgtagcaaa gtacttcaaa aaggggacgt 180  
 ggttactcac tttgatgggtg ttcctattgc aaacgatgga acagttgcct accgaggtgg 240  
 agaaagaatc aactttcact atcttggttac tttgaaattt gtgggtgaac catgcaccgt 300  
 tcgtattatc cgtgacggga aagaaatgga agttacttat cctttgtttg aactaccttt 360  
 attggtaccg atacatgaga aaaggtccgt tcctgaatac 400

<210> 109  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H10

<400> 109

atggatattt ttgcccttgt tctcgcgttc ctattggaac caggaaacag ttcacatctc 60  
aaaggctttc tttatttcta gttcctggag ttggtagggt atattcaagc agaaccaaag 120  
taaacaccaa tatttgcacg aaaaattggt tccccgctct aaaaaggctt tctggtagtg 180  
atacttacia gatgtctttt tacaaccagc tcttggcaaa cttcaagtgg tcatttatcg 240  
taaactctgc aatattttca gttttgttgt tcaataacca acgggtattg actcgaaggg 300  
gtgtaattca cgcatacgtc ctagggttgt tgctctgggt ttgttttggt tatgctgggt 360  
ggtcaacttg tgcctgtttt ctggttctaa ggtcac 396

<210> 110

<211> 359

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H11

<400> 110

cccacgcgtc cggaatcacg gcatatggga aagccaagcg gaacagcgcc aaggcttcta 60  
aagataagaa acaaaagcaa aaaacagttg taacaaacat tcaagagagg gaacaggagg 120  
agagaatctt gaaagagttt gaccttaatt atcaatttgg accttgtgtc tgcattggga 180  
gactaactcg ctggaaacgc gcacagtcac ttggtctgaa cccccaaaa atagttttgg 240  
caatattaga acggagagga tcagaagtgg acgaagattt gttccaaacg tataagaatc 300  
ttattttaact tgtttcaatt tatgtgaata taataaactt ttgaaaacgt tgtttggat 359

<210> 111

<211> 206

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H12

<400> 111

agaaacgctt tcagctatca catcgactgc tcgatgatag cgaatcagat gcccgttgcg 60  
caaccatcg cacttgtctt cgttgatcaa caccacaggt aaccgtattt tgtataaatg 120

attggaata catcgaacaa acaaaaaaat aaaaaaaaaa aaaaaaaaaa aaaaataaaa 180  
 aaaaaaaaaac aaaggaaact aacaaa 206

<210> 112  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-H3  
 <400> 112

cccacgcgtc cgcccacgcg tccggaaga ggaagaagaa gttcaaggct tttctttgcg 60  
 agtttcagaa aattttattga gaaagttgac ttcagcccct gaagaggtga aagaatctcg 120  
 agttgcagtt gaaactgac gtgataggca gttagtagaa gcagtacgag aagaagagag 180  
 aaataagaga agacaacttg tcgaaagggt tcgagagagg caacaacgta aagctagaca 240  
 aagggaagaa agagaaactg ctctcgtgca agcacttggt caggatctcc aaagatccaa 300  
 ctttcgtccc aaaatgaaga ccgtattgtg tgagtcagaa agaaaggcct gcatggaatg 360  
 ttatcgagag aatccaagtg atcctttacg ttgtgcagaa 400

<210> 113  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-H4  
 <400> 113

cgggagcata atccgatgat tggtttccgt ggagcttcta gatattagga tccccgatat 60  
 aaggaaggat ttattatgga atgtaaagca ctaaagagag tgagagacga gatgggactc 120  
 aagaatgtga aagtaatgat tccattttgt cgtacagtag aagaaggcat tcgagttgaa 180  
 gaaataatgg cagcacaagg cctcaagcga ggtgaaatg gactggagat ttatgtcatg 240  
 tgtgaaatac cttccaatgt cattatggca gatgagtttg ccaaaatatt tgatggtttc 300  
 agtattggat ccaacgactt gacttcttta gtattgggct tagatagaga taacgaaatt 360  
 attgcacatt tgtatgatga acgaaatcc 389

<210> 114  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H5

<400> 114

```
agcgttaaag catgaaagaa aagaaatccg aaaaagaaga gaaaaaggta agaaagagga 60
ccgaatcagg gtaagaggta gaggagcaag aagagaagag agaattgctgg gtggagtagc 120
gaaacaagag aagggaagta aaaggtaaga aagaggaaaag gttttacgaga gaaggaagta 180
gaaagaagag agtgtaaggc ggcgtcataa tagaaatccg aaaggagtag aagaaaagag 240
agagaagaaa gaaaagaaga gaaaagccgt actgaagacc gacacaggta ctcgaggaga 300
aaggagaccc aaattaaggt gagagaatgg acgataagga actaagcaaa aggatatggt 360
atctgcggta gaacatatga aagaagcagc accgactgtt t 401
```

<210> 115  
 <211> 302  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H7

<400> 115

```
agcccacgcy tccgctcatt tgtgtctgct ttgaactcgt cgtttttccg atatattgat 60
ttgcaaatat gaacttttaa gtgcgtttgt gtgacattca gaagaatcgt gtaaatttga 120
caaccttcct tgcacctcaa gatagtgtct catatgctga tggcgcggttt ataataataca 180
tactgaagtg ttgaagcaaa agtattttcgc tcgtttttac tcggtacgtc acatagattt 240
ggttgaagtt gctctgtttg tgctaggcat cttggcaata aaggacaatt atgttgagtt 300
tt 302
```

<210> 116  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H8

<400> 116

agcccacgcg tccgcccacg cgtccgcccc cgcgctccgcc caccggtccg agagaggaat 60  
 cgatcaagca gtcaaggcag ttacagagaa acttagaagt atgtccagaa agattaattc 120  
 gaaagaagaa atacaacaag ttgctacgat atctgccaac ggagatgaag aaataggcag 180  
 ttttaattgcc aaagctatgg aagctgttgg gagagaagga acgattacag tttctgatgg 240  
 aaagactgta gagaatgaat tggaagtagt ggaaggactc aagtttgatc gtggctatat 300  
 ttcaccttat tttgtgaccg atgcaaagac acagaaatgt gaatttgaga atcctctcat 360  
 tttatgtgtc gagaagaaga tatcttcggt gaatgcaatg ct 402

<210> 117  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-H9

<400> 117

gacgtagca gctgcagata taagtcaaca tatttccact gccggtacag aagcttcagg 60  
 tacctcta atgaagtttt cattgaatgg tggccttatc gttggaactt tggatggagc 120  
 caatattgag attcgggaag aagttggtga ggagaatatc tttatatattg gattgaatgc 180  
 cgagcaagta gaagaagaac gaaagaaact taatccttct tatgtgctga atgagaagct 240  
 tgcaaaagta ttggaatgga tagagtctgg aacgatggta gatgctaaga aacatcaacc 300  
 cattgtggat tctaagag gaggaaaaga ctggtacctt gttggtgcag actttgaatc 360  
 ttatttacia atacaagaag aagtggaaccg cgtattccga gatcaaccg a 411

<210> 118  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-A1

<400> 118

cacacgctc cgaagaagag cgtgcgtgga ggatggattc cgttattgca ctagttggga 60  
 aagactttgt tttatcagca gcagatactg ccaacgcgcg ttcggtcata gtaatgaaag 120  
 acgatgtgga caagatattg gagctggata gtcataagac cttagctatg ggtggggagc 180

cagggtgactt tgtgcagttc acggagtata tacaaaagaa tcttcacctt tacgaattcc 240  
aaacgggatt gcaactaagt actcacgcag ttgctaactt catccgtggg gaattggcta 300  
gattgatacg ggaagcccc gtattaacca acctactttt ggggggttat gattctgtgt 360  
ccgggccttc actgtattac atcgactatc ttggtacttt ggaaaaacta gactata 417

<210> 119  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-A11

<400> 119

cacgcgtccg gaggcgtcat aatagaaatc cgaaaggagt agaagaaaag agagagaaga 60  
aagaaaagaa gagaaaagcc gtactgaaga ccgacacagg tactcgagga gaaaggagac 120  
ccaaattaag gtgagagaat ggacgataag gaactaggca aaaggatatg gtatctgcgg 180  
tagaacatat gaaagaagca gcaccgactg tttagcaaaa acacagcact ctgcagaaaa 240  
gagaaaatgt aaagtataga gtgtgcggcc tgccaaatag tagagaagaa atcgatgaaa 300  
gtgaaagcga gtaaaagatg aggtatagag aatggcggtc ctaacggtaa ggatccaaag 360  
gtagcgaagt aaatagacgt ttg 383

<210> 120  
<211> 399  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-A2

<400> 120

cacacgcgtc cgcttgaatt tttctttggt gtttccttgg cacatatatt ttgttttctt 60  
ctctccagca taattggcta ctggaacttt gacacaaaga gctggctttc gaataatatt 120  
ttgggctcga gtatgtcagt attgggaatc gaattgcttg cgttgggtga tttcttgagc 180  
agttgcattc ttctgtttgg tttgttcttc tacgatatct tttgggtctt tgcttcgaag 240  
ccagtatttg gcgctaattg tatggtcacc gttgctaaaa gctttgatgg acccatcaag 300  
ttgatattcc ccaagactat ttccggaaat tcccaagaat attctatgct tggattgggt 360



gacatagtgatg ttccaggatt gtttgttgct atgatttta 399

<210> 121  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-003-Q1-E1-A3  
  
<400> 121

tccgaaggtc cagggacgcg tcagcaaacg cgtaagcgac ggcatttctc tccggatacc 60  
acttgtggta gttcgagctg ccatcccttc tgggtccgct totacagttg ttactgatct 120  
tgtgacgcga tcctttacaa ggaaattgcy tccaatgtcc tgtggagcca gaagagaacg 180  
ttgttgttat ttcagccatc aaaactatta gcacactcca gaaagcattg cttcacacaa 240  
atactaacca gttaagacct tccatagtgc tatttgtacc tgaaattatt gctcatgcta 300  
atgaccatgt ttaagcactt cttcagatag ctggtgaaaa gaccgcatac agaatacct 360  
ccagaataga ttcaacgata gatgatataa taagcac 397

<210> 122  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-003-Q1-E1-A9  
  
<400> 122

cggtcgtact tccggggcca ccacgcgtcc gaaaatgggt gcaaagactg ctctgagttg 60  
cctctttctc tctttcctta tcgctgccgc agttgcagcc gacgtagttt cagaggagag 120  
atggggatat gctcagcaaa cccaacaaca gcaacagtgc caacaagtat gtaaacagta 180  
tgcatactat cagagtcag tctgcacttc cgtaaccaca cagagcccat actggaccca 240  
atgctcgaag actgtgcaaa cctttgtccc aagccagtgc agtacttata cccaatctcc 300  
tacatggacc tattgcagca cctacaccac cactagcgta ccattctaat gcagcaaggc 360  
cgtgactact tataactcaaa cctgctgtgc ttatgcccac caaacttcct atgcagtcag 420  
taccgagcaa tatgttc 437

<210> 123  
 <211> 344  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-003-Q1-E1-B1

<400> 123

cggaacgcatg ggtgtttgtc gttttgtcga ttctagaaac gacacttttg cttttaaata 60  
 gaatactctt ctacgacaac tttttcgat tcttggttgc aaagctcttc cttatattct 120  
 ttgtgcttgg acaatggttg caaagactgc tctgagttgc ctctttctct ctttccttat 180  
 cgctgccgca gttgcagccg acgtagtttc agaggagaga tggggatatg ctcagcanac 240  
 ccaacaacag caacagtgcc aacaagtatg taaacagtat gcatactatc agagtccagt 300  
 ctgcacttcc gttaacacac agagcccata ctgggaccaa tgct 344

<210> 124  
 <211> 289  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-B10

<400> 124

ggggtgcaac caaaggttgt tgtaaaaca ttaatggcaa cggtccggtc caaacccgag 60  
 gaggacccat ggaaaccttt gaaccttata aaaggaaaaa ccttttaagg aaaaattacg 120  
 gatggccaat ttgaaatcca ccgttgaaaa gttgtcttaa aatttagaaa gaaatgcttt 180  
 cccggttaaa aataaaaaga attctaagct aatagagtat ttaaatgaaa aagacacaaa 240  
 taactactga tcgtttcgta cgtaatatc ttcaaacat aaagggggg 289

<210> 125  
 <211> 312  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-B12

<400> 125

cttcaacgtg gctcaacttc gagatgatct caacaaagct aatagagtat ttaatgaaga 60

gacacaaata actactgatac gtttcgtacg taatattctt caagacgtgg acgaacttga 120  
 gtcagtctca ggggtgcttg aagataaaac aaggacgcct aggaaaattg agaatactca 180  
 aaagtgggtg aagaagtgtg atcacgactt tgatcgtttt ttggctttat atccagaatc 240  
 ctgaaaggaa agaccgaaag tcgaggggct tctcatggaa gaagagggaa tgcaataaaa 300  
 cattttgggt ac 312

<210> 126  
 <211> 296  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-B5

<400> 126

cgtccgcaaa gaaatgacgc agtagatcag agagtaacac atgcaagtaa gtacaacgaa 60  
 cgggtgagtg tataagtctg aatggagtct gtgattctga cgccacacat caatgtaaca 120  
 agtggtaata ttgaacgcca caagcgatat aagaggggat atccgacagg acgatagcta 180  
 cattgggact tagaaagagt ctcatcagaa tatgtcaacc ctagtgaaaa tggatcaagt 240  
 tcaaggagaa tctgaacat ctgtaagcat ttgggttcat aaacaatgcc atttgg 296

<210> 127  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-B9

<400> 127

cggggccacc cacgcgtccg cacacgcgtc cggaagacc gcaagtaaaa aagggactgg 60  
 agaatttgag agcttatcgt aagaaggat tggatatgtg tagcgctttt caaaagacca 120  
 caactggaaa tccagcaact tgtgagggat aacttcaacg tggctcaact tcgagatgat 180  
 ctcaacaaag taagtcatat gtgctgttgt tgatcaaatt taaaagaatt ctaggctaata 240  
 agagtattta atgaagagac acaataaact actgatcgtt tcgtacgtaa tattcttcaa 300  
 gacgtggacg aacttgagtc agtctcaggg ttgcttgaag ataaaacaag gacgcctagg 360  
 aaaattgaga atactcaaaa gtgggtgaag aagttgtatc acgactttga acgtttttt 419

<210> 128  
 <211> 251  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-C1

<400> 128

gtccgaacca agataaggta tcaaagtaaa gatagaagga tatagagaag aacataggtt 60  
 aggcttagaa gcagcatact tcagaggaaa gctttaacgc attactgaaa atgaaacccg 120  
 acccgagaa gaaaacgtta gaacttcaga accgatcaag gttaaagtgt caagaaccag 180  
 cttacaagag tcaaattctgg gttgaattcc taaaccatac aaaggagtc ctctcttaga 240  
 aaaaagtccc g 251

<210> 129  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-C12

<400> 129

cgagacgcgt gggaggcaga gtcgaacata gctgaattaa aggaagaact ttcgtcagtt 60  
 gatgagcaga ttcagtccag gaagaagcat ctcgaagttc ttgaaaatga agcactctct 120  
 gttatggaga actataagct ctgcgaagag gagcagaaag taaaggaaga gaaactatca 180  
 aagggtcaaaa gagagtacga gtcttataag atgcagactg catcctctcg taaagaagag 240  
 tcccgcccttg aaaaccaa at cgatgatgta aagaagaaga ttcaagacat ggactcgaag 300  
 attacttact ggactaaaga agaacattcc ctgaaagttg aggcagaaga gcacatcgtg 360  
 gatttgcaaa acgcaggaat tcctgtcact gat 393

<210> 130  
 <211> 372  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-C2

<400> 130

atggcaacca cgtgttgaag agtggagttg caacgttgac acaagacact cccaagaatc 60  
aaccggtagt ggtgtttaat cagagcgaga taccgcttgg ttttggtgtg actgctcggt 120  
cttcttttga agtgcaacaa gcgaattcga cggatttgat tgtgttgaat caagcggata 180  
ttggaagtta tttgagagat gaagatcatt ttgtaggttg tgcgctataa taacaacaac 240  
tccaatagca atgtctatcc atatatacct ttatatatat aaatatatat atatttgtgt 300  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaatataa aaaaaaaaaa caaatcataa 360  
atttgcaaaa ca 372

<210> 131  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-C3  
<400> 131

ccacaagaaa gcagtcgtcg acccctgtca ccagctcaga gctataacag ttttttgctt 60  
taacttatac acagaccagt tccatccgaa cgagtatttt gccttacgaa acctacttcc 120  
tccacttact gaatcgtecc actctcgata cgcaagtgtc ccttctcggt tcttcacgta 180  
ttcaactttg ggtggaacca caactttcag cccaaaaccg tgggaacccg tcaatttcaa 240  
acccttgtca atcaaacatg ttctcaaaac gaccaattt ctttccatcc aacagatcag 300  
aatatcggct acggtattaa cacctgcaag gtatagcaaa tattttctcaa tagtttgga 360  
aaattccgag gaatacgaca tctaaaatac cagatgca 398

<210> 132  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-C5  
<400> 132

gatagtggaa tgaaaaacgg ttgtccttga tgaaaaagt tcaacttccg gttctccctg 60  
aagacattga atctcaaatt ctggaattat tagagtatgt aaaggatggt gctgttgcta 120  
gaatggtttg taagcgatgg aagagactcg tggatgaaaa ttccaattg tggagacgac 180

ttcaaggctt tacactacca aaacgactac caagtgaagc ggaaaagtgg tatagaaagg 240  
cagcggaatg tgggaatcga gaggcaatgg tgcttcttgc cttgctctat tattatggat 300  
atcagagtca ggatgccaca gttttgtctt tgacgtttct tcgaaatagt gtcgcttggt 360  
agtgcaacga gcactagtgt cgttggtgag gtatttataa ataaataaat ttgtctttgg 420  
tgg 423

<210> 133  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-C6  
<400> 133

gcaagcgtga agcgtgaggg tagttcatca tggttgagac agagcttcaa gatggtgttt 60  
gtgcttctct ttggactggt cgtctcttcc tctacacatt tatgttatca ttctctgcc 120  
cgatcattgg cttggatgga cgtaaagtat atcacatatg gaatgacagc ttattctatg 180  
atgggaagta tcattaactt ttgtgcttaa tctgcctctt ctgttgtaga aggacgggat 240  
catggaccgt gtaaatatgt catggccttg gcgtccaaa ttttgattct agtctttttc 300  
ttgtggcttt ttacatttgt agatgcgttg tctctatgc ttaccaagtc ttggtttatt 360  
gaattgcgta tcaacgtggt tcaaataatg tggtggttgg ttggagcggt tgtggtatct 420

<210> 134  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-C7  
<400> 134

gatggtcaag aacggtaccg tgctatcacc tctgcgtatt atcgaggtgc cgttgagca 60  
cttctcgtat acgatatctc gaagaaggaa tcctttattg gtgtagaaaa atggctaaaa 120  
gagcttcgtg atcacgcgga tagtaatata gttatcatgt tggtaggaaa caagtcggac 180  
ttgaagcatc taagagcggg gagcacggat gaaggaaggg agtttgcgga gaagcactcc 240  
ttgtcgttta tcgaaacttc tgctttggat gctaccaacg ttgaacaagc ttttaccag 300

ttgctgactg aaatatatcg aattgtgcat aagaaagctc ttacaattga gaagaatagt 360  
tcgttcaaac cggtctctg 378

<210> 135  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-C8  
<400> 135

aagaaatccg aaaaagaaga gaaaaaggta agaaagagga ccgaatcagg gtaagaggta 60  
gaggagcaag aagagaagag agaattgctgg gtggagtagc gaaacaagag aagggaagta 120  
aaaggtaaga aagaggaaag gtttacgaga gaaggaagta gaaagaagag agtgtaaggc 180  
ggcgtcataa tagaaatccg aaaggagtag aagaaaagag agagaagaaa gaaaagaaga 240  
gaaaagccgt actgaagacc gacacaggta ctcgaggaga aaggagaccc aaattaaggt 300  
gagagaatgg acgataagga actaggcaaa aggatatggt atctgcggtga gaacatatga 360  
aagaagcagc accgactgtt tagcaaaaac acagcactct gcagaaaaga gaaatg 417

<210> 136  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-D1  
<400> 136

gatgtaacac ccgaagagtt tcttggcgat gttttgggtg atatcaattc acgtcgtgga 60  
aatgttttga atgtcagtga ccgtagtaat cttaaagtca ttcaagctcg agtaccacta 120  
gcgagtatgt ttcagtacgt ttccactttg cgttcaatgt ccaaaggcag agcttcgtac 180  
agcatgtttt tagacgggta tgaggtagtt cctcagcaca ttgaaaagga gttgttgagt 240  
aaaggaggag ggtcttcgtg atgagaataa acatttttatt gtgaggttgt aaaaaaaaaa 300  
aattccctaa atattttacaa ttttaaaaaa aaatcaacaa catacacaaa agggggggcc 360  
ctctacaggt ctaaagctta tataaaaaaa aaagggggcgg cccccc 406

<210> 137

<211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-003-Q1-E1-D11  
  
 <400> 137  
  
 gtcagaactc aagcggttgca gcatttgcaa attctcaagt ttactatcag agtcacctg 60  
 ttatgcaatc gtcagctggg gaggtatcca caaaagcagg ttctgtatct gaaggaaaac 120  
 tgtattcggg aagtggttct tctttacata atgacaagtc cgattcaagg atttccaacg 180  
 atataggaaa taacaccgtc tcgaaccaac atgggttcaa gtcggcagtt tccaatactt 240  
 ctgcacaagc caacaaaacg gtgaaagttc atttgggtatt ttgtccaagt gacgaagaaa 300  
 tttcaatgga ggagttgca gctcagttac caagatatca aagacagatg atatcgtcgt 360  
 cgtcgttaatt cgtatctatg ctttaagttt tcatcttttt gctaacacg 409

<210> 138  
 <211> 326  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-003-Q1-E1-D12  
  
 <400> 138  
  
 gggatggaag ctagacaaag tatactagag aacagttcaa cagaagacaa cgagtctttt 60  
 tctgcagaac aactcgtgaa acacaaggaa aaggaactgc aaacacttgt aaagataaaa 120  
 gaatacacc c aagagatatt aggacaactc aagttccgag tacaaacttt tgaaaaatat 180  
 gataccatat tagctgatgc cgtagaaaca atagcgcatg ggaaagaaat ttctcgttgc 240  
 agcgccaata tcttagcgga taaagaatac gtaaaagtac ctttagaaga taaaagcag 300  
 taaatttcct aaatatttac gatattt 326

<210> 139  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-003-Q1-E1-D2  
  
 <400> 139



cggacgcgtg gggatacacc gtgacttttg tttgttgata agccacgtaa attttgccgg 60  
 tgagagaacc caaacgacaa ccagaagaca atacttgagt ttgccactcg tttttgttat 120  
 gatgggttatt cgataccgcg gtggttcttg gttcatgggt cacaggaaat acgataggtc 180  
 cctggggttg aggatcgaac aactggatga cgattccgag tccttcaaac ccaacctcgt 240  
 taccatatgc gggaccataa gttggtggat gtttggata ccaaaaagcg aaatgggtcta 300  
 ctgcggtcg aaactccttg gttcctatcc agtagaagaa gctggcggtg aagttgggtg 360  
 tggtagagtg tgcgacgtg tacatagttc caaaggaggg tgctttcaag ctggtcagct 420  
 gta 423

<210> 140  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-D4  
 <400> 140

gatcatgaat gtatTTTTGC gttcgttgat tcgtgcactg gcctcccttg tgtttactta 60  
 ctacagaatt tcgccaaata tgggggttga acaagctttg cccgtgggtt gccctatagt 120  
 aagcgaagtt cttagttggt ggcaagtttt ctgtaggaga cctgactgga gtctgggact 180  
 gacgactctg actgaaactc caaataatTT gtcaagtttc agtcgtctca tgtgtttact 240  
 tttctttggt ttgcgtgaga tcgcagtttc tgcgggagtc tgacccggtg ggagagactt 300  
 cagcttctct ttacaggaat actttgctaa cttgttggtta tttgttttgc ttgaaagtaa 360  
 atataaattg catttggttg gaattgc 387

<210> 141  
 <211> 442  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-D5  
 <400> 141

cagttacttt agaactgggt ggtaaacttc ccaatatatt ctttgcagat attgcaaattg 60  
 agaatgacga attctttgaa aaggctgtgg agggctgtgt catgtttggt ctgaatcaag 120

gagaagtttg tacttgtcca tcgagagctc ttgttcacga gtccatttac gacaagttta 180  
 tcgaaaaggt gattcaaaga cttggtaaaa taaagcaagg agatccactc aatttggaga 240  
 ctatggtggg agctcaagta tctactgaac agatggataa gattcttcac tatgtggaat 300  
 tgggaaagaa ggaaggtgct cagtgtattg ttggaggaag tggaaagaaa gctattggag 360  
 gtgatttaga aggtggctat tacattgaac cgacgatatt caagggagat aacaagatga 420  
 gaatattcca agaagaaata tt 442

<210> 142  
 <211> 171  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-D7

<400> 142  
 cacacgcgtc cgataaggcg ctggaatata ttttgaaaca agcttcacag ccaaagggtg 60  
 cttcttcttc ataagaaagt tatatacttt tctccatgtc ttgatagag tcccgttctc 120  
 ttctttttat ctatatataa ataatgtgt tttcggaatc aagtttcaag g 171

<210> 143  
 <211> 334  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-003-Q1-E1-D9

<400> 143  
 cccacgcgtc cgcccacgcg tccgccttac ctctccaaga aagtgttgca cggctgtcga 60  
 aagaacgtgc tgtgaagtga gagaacgtac gagaaagcca agtgaggaaa agaaggcaag 120  
 tanagggcgg cccgagaaaag gagagggcgt aagacgtgat acagagtagg aagaaaagag 180  
 aagagagcta gaaaggaggt aaaagaagag taaaaggact agaagaggta cggaattcac 240  
 gaagaangag cgtgaaggaa ggaggaatcc caagtaatcg aggaagaaaa agcttcggtg 300  
 aaagcgtgaa cggattttgt acacactgcc cgtc 334

<210> 144  
 <211> 253

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E1  
 <400> 144  
 cccacgcgtc cgcccaacgcg tccgcccacg cgtccgcgga cgcgtggggt cctgcagaat 60  
 atcgacctcg gatacacgtg agactgctat ctaatattga ggaaatctta ctaggaggaa 120  
 gacgtaacct gttttatctc ccccatgaag cgctgtctga aagagcaacg ctggcaaaag 180  
 atatatttgc ctgtatagct tatagcttac acgctttggt gccttgggtg atgtttttct 240  
 acctttgttg ttt 253

<210> 145  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E11  
 <400> 145  
 atcttttctg gggttctgct ctaggccaa ctcttgggt ggttgcttca gaaatttctc 60  
 caacctatct acgtagtcac ggaatgttgc tatctgatgt taaaaacttt acaggcaact 120  
 ttattactac atacgcattc aaacatatga ccaatgcaat gacgaatata ggtacctttg 180  
 ttggtttcta tggaggctct actattctcg gttggatgta tctcatgttc tttatgccag 240  
 agaccaaaga caagactctg gaagaattga atgaagtatt tgaaaggcgc acgatggaca 300  
 tttttagaga aaatgtgggc cgagtgaag aaacttgcaa tgatttgatt cacatgcgtt 360  
 ggagaaatat ttgggtctta tccaaataga cgtgtttttc ccgtttg 407

<210> 146  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E3  
 <400> 146  
 aattgtaccg aaaaaaacac ttgtgacaac ctgactcggg ttactgaca gatattctgt 60  
 ctggtgggtt ttgtattgct catcaagtct tgaacagagc tggtttgtat attttgatga 120

caaacgggac gagtttcttg gttttttgaa gtaacttttt cgtctccaaa actgtagcag 180  
 tcatttgcg tagagtgtaa tgtttgtag aaagtccata gaaagctgac ctgccaatgc 240  
 cattgtttat atgggaagag tcgcgtatth tttgtattgt cgttcacaac aagggttctct 300  
 tttgatgttt tttcggttct tcggagttag tgctgtgttg aaaactagca atacttttgt 360  
 agtgaggcaa gtttcttgtc attttgtcta gagacaagtt cgtttgtcaa ctcatthgtc 420  
 ttttgcgtcc ctggagttg 439

<210> 147  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E4  
 <400> 147

cacacgcgtc cgcccacgcg tccgcccacg cgtccgaaaa tgagcaaata ggaatatatg 60  
 gatttacaag gacaagccac ttgtgaaaaa tatgccaaaa aaggcatctt gtggacaacg 120  
 ttggtcgcct tgatcgttgg actagtcaca gacgattacc tgcgaatggt tcaagtattt 180  
 atattgggag tagttttggt agctatggta agctgtctct atgtgtttat tggacacttc 240  
 tatttccaat cctatatact tgtagggcgt acttttcccc tggccatggt atacaagaca 300  
 tccacttgtg tttgtccacg ccgcaaccaa aaacaacaat aataacaacc attcttaacc 360  
 aaaaaaagc aaatttcaag acaaattagt caagagacaa attcatttgt caactcaat 419

<210> 148  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E5  
 <400> 148

cccacgcgtc cgcccacgcg tccgaaagct cttccttata ttctttgtgc ttggacaatg 60  
 gttgcaaaga ctgctctgag ttgcctcttt ctctctttcc ttatcgtgc cgcagttgca 120  
 gccgacgtag tttcagagga gagatgggga tatgctcagc aaaccaaca acagcaacag 180  
 tgccaacaag tatgtaaaca gtatgcatac tatcagagtc cagtctgcac ttccgtaacc 240

acacagagcc catactggac ccaatgctcg aagactgtgc aaacctttgt cccaagccag 300  
 tgcagtactt atacccaatc tctacatgg acctattgca gcacctacac caccactagc 360  
 gtaccatctc aatgcagcaa ggccgtgact acttatactc aaacctgctg tgcttatgcc 420  
 caacaaactt cctatgca 438

<210> 149  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E6  
 <400> 149

cacacgcgtc cggttttgtt gaattttcga ccggaataga gtcggttggt tggtgcactt 60  
 tgtcattctc ttcattggag tagtagtggt gttgggttgag ataaagacat tgcaacatat 120  
 ttgcttttac gttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaaaaaa aaaggggggg caccceaaaa ggttcaaact ttacttacct ttgaatcaaa 300  
 cttcaaaact cctcaaaagt gtccceaaaa ttcattccaa gggccgcatt ttaaaaactt 360  
 ctagagtgga aaaaccctgg tgtaacgaaa ttaaaaccca ttgaaaaaaa tcccccttct 420  
 acaagcgggg ttaatcccaa aaaggccccc 450

<210> 150  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E7  
 <400> 150

cccacgcgtc cggagtagcg aaacaagaga agggaagtaa aaggtaagaa agaggaaagg 60  
 tttacgagag aaggaagtag aaagaagaga gtgtaaggcg gcgtcataat agaaatccga 120  
 aaggagtaga aaaaaagaga gagaagaaag aaaagaagag aaaagccgta ctgaagaccg 180  
 acacaggtac tcgaggagaa aggagacca aattaaggtg agagaatgga cgataaggaa 240  
 ctaggcaaaa ggatatggta tctgcggtag aacatatgaa agaagcagca ccgactgttt 300

agcaaaaaca cagcactctg cagaaaagag aaaatgtaaa gtatagagtg tgcggcctgc 360  
 caaatagtag agaagaaatc gatgaaagtg aaagcgagta aaagatgagg tatagagaat 420  
 ggcggtccta acag 434

<210> 151  
 <211> 448  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-E8  
 <400> 151

cttatgtagt gtttgggttt ctagcacatc tcatgtctgc ttctcagtgg cacagatctg 60  
 gtacgaagtg ggtgctagaa tcacctctcg atcagcaagc caagggttat cagaagaaaag 120  
 atagcaggag tagagatagt caatatgatg atgacgagta ttcaagacaa cgagataagt 180  
 catcaagtaa aaaagagtcg tccttccatc ctcccatagc aaatacgaag caaaactatt 240  
 atgatgtggt acaagtggat cccaattcca gtatggagga tattaagggt tctttttatc 300  
 gcttagtatt gaagtatcat cccgatcggt ttcttgagga tgagtcttgt gcagagaaaa 360  
 tgaaagaaat attggaagct tattcagtac ttgggaatcc tttgaaacgt gccatgtacg 420  
 attatagtcg aaaacagcaa tggtctgg 448

<210> 152  
 <211> 263  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-F10  
 <400> 152

ggtagcagtt gtacattcag catcatcaaa tgccaaaggg aggaaagaaa gattcttcaa 60  
 agaaagaagc cacaagtaaa cctgcagcag cagatgctac aaagacgaca gaaaagtctg 120  
 gtccggaagc caagttgaag ggaactggtg caaagaaaca ataaaaagtt gactatgcat 180  
 gttcctgtta tgttttgtga gttctgtttg atagtttcca gctattcttt tggtagtga 240  
 taaagagaaa attttttata ttt 263

<210> 153  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F2

<400> 153

cggacgcatg ggcgacgcg tggggcccg ccaatgtttt ttgcttcgcg gtctagtact 60  
ttagctagta gatatttaac actttcttgt ttaaacgggtg ctattaaaag gagctttgtc 120  
atagaggcaa cctgcaaaga aacgccagat acttccaaga aagagtttcc cgccccaagc 180  
cacttttctc cgcaagcaaa gcttttgaaa gaagttcgta aaaagaagga gttttggtcg 240  
aaccctgata atgtgatcga gcgaaccccc gaagataaag agcgaataaa gcaaagaagt 300  
gaaaggggtg tgaaaatggt gggctgtgaa gttaatgaaa aggacaactt tgaagtaaag 360  
gatcgtgtga ccgtaggaga acttttagcg tccttggggc acaaaatacc cggttatccg 420  
agaccaaaaa tgggtcctac tgtgtttg 448

<210> 154  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F3

<400> 154

gatgcccaac ttatatcacg cagccaacta tcatacccaa gtactgcagt atgtcgggtc 60  
ctgaagagta tgtacagcaa cagcaatgtg taaagtatgt ggctcaacaa gttattgcac 120  
ccaaacaatg tgtcaagtac tataccgagc agaagattca acaaaagtat tgctctcgct 180  
atgttactga agaataagta caaagcaagc agtgcacaa gtatgtatct cttcagaaga 240  
tcaagtacga gtcagtctct gcccaatatg aagttcaaaa gatcaaacag caccaatgta 300  
ctatgacagt ctctgaacaa tacatacagc cggatacttg ctacacctat gttectgaac 360  
aacaattggt gcctcagact tggtacaagt attattctgt acccaagttt 410

<210> 155  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F6

<400> 155

gcttttgttg gagactgcag ttgcatcctg ttgttccata caggttacac ttacactgga 60  
aaggccatgg ttactacaaa aagaattcca ccatatcaaa cgtgccaaaca accaccacaa 120  
caaaaattgc tagacgtggt caaactcaca tagggaacca cagtttcaac ctattttata 180  
ccaaggcttg ttttactaac ttgtcgcgta ccaatcatat tactaaaagt agcgaaagca 240  
aggagaacca gccactagag tctctaccct attatcctta tttggatgag cgtggatttc 300  
tcacttttca agatgattgg ggaaaagtct ctgtgtacgc tatatatgat gcaaaatata 360  
gtttacagta catcgggtatt tcaagagata cgcgtacttc cttgttactt catctcattc 420  
ggatgcctgc gttgtgttat ta 442

<210> 156

<211> 427

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F8

<400> 156

ctctatatat atgtgtatgt gtgtgtgtgt gtgtaatcat ccactattgc agattgcact 60  
agcgagtggg gtatcttctc ttctatcttc gatgacgggt tctcctttgg aggttattcg 120  
aagtagaatt caagtccaag atgcacaaac cagaaatagt tatcgtggca ttgtcgattg 180  
tatttcgaaa atgttgcgac aggaaggagc gttggcattt tacaagggaa tgggtacgag 240  
tctccttcga acagttccta gtggaatcat ctcttatcgc agttatgaaa tgggacttcg 300  
attggttcat cgagtcaatc tctattggaa tgcactttaa gatccctctt ccatagcttc 360  
cttgtcttct ctttcgggtt tcaaatagaa catttccatt tcttgggatt ccacaatctg 420  
tacacca 427

<210> 157

<211> 419

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-G10



<400> 157

gggccagcac gcgtccgcac agacttccgg tggtttcaac gaacatggtg aggactgtta 60  
tcgttcgaag agactatctt cactgggttc tcaagtacag acgatttgaa aagagacaca 120  
ggaatattcc agcatattgc tctccttgca ttcgcgtgag agaaggatac gtggttacca 180  
ttggagaatg tcggccgtta tccaggacag tacgctttaa tgtgattaga attgatcgag 240  
cagcacctgc agcagaagct ggaaagaaaa tctatagtgc catataaact tgttggttca 300  
ctctattact catatcatga aaactgtgca cacttgggaa gcctcaaaaa tgatatgaag 360  
tgagacgtac ttgggttgac gagtgtacca caaagttggt gtaactagat actgctcgg 419

<210> 158

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-G12

<400> 158

cccacgcgtc cggttttatta ttggttgtgg taaggagcaa aatatgcaa aggaacaaac 60  
atcgctcgcc tccacaccac aaccaaccgt cagcaaacga acttttcatc tagagaaaga 120  
acaagagttg cgtttcgaag tatccaccga aaacaaagtgc caccttactc ttctatccgg 180  
tacagccgaa gtctttggca tagagctgcc aaaagggaga cacgtggaat tccaagatac 240  
caaactggca gtatttactt ggcacgggtg tgaattggaa cttgaaggta tcacagactt 300  
ggaatatgct gccagtgaac cacctatgca cctttatctc aaagcccact atctgctgga 360  
ctgtatgcgc ttgcaagcta aacaacaagg aacgagagga cccaaagt 408

<210> 159

<211> 429

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-G4

<400> 159

gtccgtttct cgtctaaaca agctagtgtt tcaagtgtc ttgatagtgc tcttccattc 60  
ttcttatgcc caacattgga aagagtcact ggaacaatgg atacctaaag aaatggaaag 120

atcctttcaa ggaatattct ataatattga cccacctgga ggtattcctg gttcggtaac 180  
agctgcagat tctcactacc agcctgacta ttactataac tggataagag atgccgctat 240  
aactatggat gtcgttgtca ctctctatga aagagcaact gaacctgctc aagtaaaaaa 300  
gttggaggat attcttaaaa gttatgtgca ctacaactat attatccaaa gaactcccaa 360  
tccaacagga aatttgacga cgggtggctt aagagctgct cattatcttc tcaatgggtc 420  
tgcatttac 429

<210> 160  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-G6

<400> 160  
ggttggttga ccattggaca atccattatc tttgtgcaca cacgcgcaag tgccaacgaa 60  
ttgaccaaga gacttcgaga ggaaggccat actgtatctt tgttacacgg aggagatatg 120  
tcacctgaag aacgggatcg cgtgattgac gagtttcgac gtggaactac gaaagtattg 180  
gtaacgacca atgtattggc acggggagta gatgtattac aagttaccgt agttgtcaat 240  
tatgatttgc cactagatgt gaacaatcaa cctgatccag agacttactt acatcgagta 300  
ggaagaactg gaagatttgg tagaaagggt cttgctatca attttgtgta tgategatac 360  
agtttgaagc agttgcagga cattgaaaaa tacttgggaa actgtcatat agagaa 416

<210> 161  
<211> 453  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-G7

<400> 161  
cccacgcgtc cgccttataa cagtaccaag ggaatagatg gctatctttg gtacatcgtg 60  
gcagccggaa gctttgtgat atggtgggtca ttccttgcc tgtttatatt caaaaacaga 120  
tcgctattaa actatttgaa caatttgtac aagaagaaga ggaaagatat caactcaata 180  
aagtagtatg gcacttgtat cattcctcta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaggggggg ccccccaaa ggttcaaacc 360  
 taacttacc ttgaatgcaa tttaaaaccc cttcaaaagt gcccccaat ttcatttcag 420  
 gggccttctt ttaaaaactt ccgaagggga aaa 453

<210> 162  
 <211> 444  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-G8  
 <400> 162

cgtttagttg cggagccatc ttttgcaaag ggtttgactg atggctttat gaaactagca 60  
 aaagacgaag gattcggttg tttgtacaag ggtcttgac cgattctatt caagcaagtt 120  
 ccatatacaa tggccaagtt ttcagttttt gaaacagcgc aagaagttat ttacagaacg 180  
 ttgagaaaacg ttggctatcc tcgtgaaagc atgtctgagg gtatgcagtt agtggtgagt 240  
 cttaactctg gcattattgc tggacttgct gctgcaattg tatcacaacc agcagatacc 300  
 gtactttcca aaatcaatca agtaaagacc gagggttcta ctgcaaaggc aatcggttacg 360  
 attatgaaac aactcgggtg tcgaaggctg ttcttaggaa caggacctcg ttgtttgatg 420  
 gttggatggt tgactgcagg tcaa 444

<210> 163  
 <211> 269  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-H10  
 <400> 163

gggtcgagga cgcgtccggt aaataaagca agcaaaggca tgagagaagt ataatagcag 60  
 aagcatgctt gaagaaaaag aaagagattt cagaaaggga agaaaagtca gctatagaga 120  
 acaaggtgaa ggagaactca acaagaagg gaacaaccga acgattcaaa aaaaaacttt 180  
 ggggggaaaa ggttaaagtg gggttaaaaa acgtatcaag caccacgaat tgaacccccca 240  
 aggtcgggtc aacaaaaccc aaggaaaaa 269

<210> 164  
 <211> 243  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-003-Q1-E1-H12  
  
 <400> 164  
  
 acgagtcacg gattagatag gtttagggat gatagagaat catgaagtag aggatgtggg 60  
 gtaagagatt aaagaccact gcatgaggat aatgaatcta actgagttag gaaaataaac 120  
 ttaagctact ttggctgggg aagtaaagcc taagaaagag taaattacgc aatcaaaagc 180  
 atgagagaag tataatagca gaagcatgct tgaacaaaac atctagccaa gaaatatgga 240  
 gtg 243

<210> 165  
 <211> 483  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-003-Q1-E1-H2  
  
 <400> 165  
  
 gcctgcggta ccagtcgta aattccggga cccgtccgcc cacgcatccg attgaaaatc 60  
 atggtagaca ctaagcttaa ggacggtgct agtgctgctc ttggacttg ccgcctatct 120  
 ctctatacag ttgtgttagc attttcagca acaataattg tacttgatgg aaggaaggca 180  
 gataacatat ggaacgatgc cctatattat catggaaaag tggatgaactt ttgtgcatat 240  
 tcggcttcgt ctgtttttga aggtggcgac catggcgcat gtaaatatgt gatggctttg 300  
 gcttctatca gcttgatctt agttttcttt ctttggttgg cctcctttgt cgacgcattg 360  
 tatccaattc ttacaaagtt ctggtttgat gagcttggtg tcaacatatt ccttactatg 420  
 tgggtggttg ttggtgcaat tgtggtgact gcaaagcgac cttctagtgt tggttatggat 480  
 gcg 483

<210> 166  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-H3

<400> 166

tgtgaagact ttttcatggc acccaaggaa cgtagtaaac caaagagtcg ctcttctaaa 60  
gccggccttc agtttccagt tggacgtgta agtagattct taaagaatgg aaactatgca 120  
gaaagagttg gagctggagc acccgtgtat ttagctgcag ttttggaata tttgactgcg 180  
gaagtgttgg aactggcagg caatgcagct cgtgataaca agaaaacccg tatagttcca 240  
cgtcatattc agttggcagt tcgtaacgac gaagaactta acaagctgtt gggcgggtgtg 300  
actattgctt caggtggcgt tcttcccaac gtccatccca atctgctacc aaagaagaag 360  
gcaaaggaag acatgcagta aagtttgcct tgagctggtg tttttgaaca ccacctttac 420  
aagaaacttg tcac 434

<210> 167

<211> 450

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-H6

<400> 167

cacgcgtccg cggacgcgtg ggggaagcaa agaacccttcg agtattagt ggaatgactc 60  
cttccatgag atttccacgg gtaagtggga agcaaatatt ggatctattg gatagcgacc 120  
gatacaagtt gagtcgtcag tttcaaattg tacatatggt tggaaagaaa catacggaac 180  
agttggttgt aagcaagaaa cggaataatg tacataagct tgtattggca cgcaaaactt 240  
atggaagtat tcaatggaaa gtggatattt cgaggctcgt ggtagaacgc ctcaaattatt 300  
taggtactgt ggttttgaat agtacctttc cagtttcttt ggtagacaac aatattcatt 360  
ctgaacaagg aatagaaagc aacaagcaaa cgagatatac attgacggaa acatttacta 420  
ccaaaaatat tctttctgca gccattagta 450

<210> 168

<211> 337

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-H7

<400> 168

acgtaattca acaacgtatc ttgaactcaa gtttogaagc tagttaacta tctgcttggg 60  
gattttctgt acagattgtt ttggagggtt cttcctcttc acttgcataa ttccatttag 120  
aatctgcgat atgtatttta cgaaggatag tatcgagatt ctttcgataa ctgccatgac 180  
catcaaaagt tggacagatg gttgatacgt tgatattttc aactctggga cagtcaattt 240  
ttctcattcc tgcaatatgt ttcacttgag agaaagtctg atgtaggaga cccaaaatcc 300  
agtcattttc gcaataaaca tttaccaatc gtcctgc 337

<210> 169

<211> 383

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-H9

<400> 169

cgtcgagccc gcatccggtc taaacgaatc aatcattcag taacagctaa tctcataata 60  
accaagatac ttacaaagac ccccaacatg tacatatattg tgggatactg attcttgtca 120  
aaaatgaggg catataacgc tcccatcggt gagaataatc taaccacat aagccaagga 180  
ttcttcccaa aagccttgaa gaaaaaaaaa ttaactgaaa gggttgatca cttttacagc 240  
actcagaaga ggggttttagc cggtgggtta atgtccggtg accgtgtgga tataactatc 300  
acttgattcg tctactattt aaaatatctt caaccgtgtc acctatttcc acatcaacgt 360  
ctaccttttc aaactttctt aac 383

<210> 170

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-A10

<400> 170

cccacgcgtc cgacagaaaa atggtcgtga ggatccgtct tgctgtata ggcagaagaa 60  
accatcctat gtataagatt gtcgttgacg acagtcattg gcctagagac ggaaaacatg 120  
tagaagcaat cggcttatat agccccattg cagcaacaaa agaagagctt gaaaataata 180

caaaacgagt tttgttggat gtagaaagag caaaatattg gatagctact ggtgcacaac 240  
 caacaaaaac ggtcttttat ttatttgctt tggcaggaat cttgccaatg cctccaaatc 300  
 cagttttatg gcagcaaaaa gcaatcgcaa gatatgaagg tataggagtt gatgaacttg 360  
 ggaaaccgat tagcaaggaa gctttagaag aacaacttga gaaag 405

<210> 171  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-A12  
 <400> 171

aggatttaag attcaaggat gagaaagaag ttatttgtaa gcgtgggtcg agcacaaaaac 60  
 attcctattc cacccaactc ggatggtgct tatgtagtta tttcttctcc gcaacaagac 120  
 ttttttagaa ccgaaagtgt aaagggagat ggggcggaag tagtatggaa tgctatggag 180  
 tttcccatc aagtgagtcc ggatacgagc aacttgactg cttttgtata tgtagaccaa 240  
 aatgtttcca aagaaaacgc tggaagagct gaagtacctt taaaccaagt ttttggggat 300  
 ggttctcaac tgggttggtg tccagtttta tttaaacaaa aggatgggtc ttggcggtct 360  
 caaggagacc ttacttaga aataagatat acaggtgatg actattc 407

<210> 172  
 <211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-004-Q1-E1-A2  
 <400> 172

acgcattcgc atacgcgtcc gcggacgcgt gggcgccagg tttcatattt gtcgtttgtt 60  
 gancanatca cgcaagatcg aaaatcagat tgtgtcgttt actgttcatg gaagagtaaa 120  
 aggactctac tctatctata agaagatgaa gcgtggtaga aagctaaaag aaatttatga 180  
 ttttaattgcg ttacgtataa ttattcaacc acgaaatcca ttaaaagaaa tacaagcatg 240  
 ttacgatgta cgagcattag tggaacagcg ttgggttcct gtgggggtaca aa 292

<210> 173  
 <211> 310  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-A4

<400> 173

cggggacacc cacgcatccg ggaaaagcgc catatcgga aaacagcagt tgatggccgg 60  
 cttgaaccgt ctaggagggg atgaatacac acccaaaagc aagttagaaa gaattattaca 120  
 agtcaagcga aagagaaatt tctcctctgc tggaatagat gaaaagaaag agtcggttga 180  
 cctccctagc gtctcaagtg tacaagcttg tgaccttcaa ctaccagaa aaattcggcg 240  
 taatcgaaaa ggcatgtttc ctgtgaagaa aacaatatta tcacaaggaa aaaagataag 300  
 agctgatttg 310

<210> 174  
 <211> 323  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-A6

<400> 174

aagagcacat tgaagagttt aaatcgggtga agaagtttaa agttttcaac acagataaca 60  
 tttggctgaa cttacgtgca gtcaagaaac ttgtgaaaga aggaaagatg gatctggata 120  
 ttattgcaaa taccaagtcg gttggagatc agaaagtaat tcagttggag acagcagttg 180  
 gttctgctat tcgatacttt gaaaacgccc gaggtgtaaa tgttcctcgc tcacgttttc 240  
 tcccggtgaa atccacatct gacttacttt tggttcaaag tagtctttac accttgaaat 300  
 ctggaactct tattcctaata cca 323

<210> 175  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-B10

<400> 175



catttgttct gtaaaaggga ctggaagcga cgccatgtcc aaggtctttc gaacagcacg 60  
aagagtatat caagttggaa atgaactttc tctaggtagc ttgttggaga gaaagagcgt 120  
tcagaatata tattctcgtc gttactttgc tacggaaact gaacaacaac actcccatga 180  
gcacaaaaag aggttgacgt ggagggactt tagggaaggc agatgcaact tggacgagct 240  
tgctaataac aatcgtcata ttggagtgtg tattgttctg tccatctatg ttgttgttgg 300  
tgtcactcta aaaaagggtg ttggtggaaa gaaaagagt gaagacgcag tttcctcagt 360  
ggattaaggc gagatggtac ctgcacaata aggcatct t 401

<210> 176  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-B11

<400> 176  
gggttgggtga gccgctactc gttttgagtc ttttcacgtc ctggtattcg tcttgggttc 60  
cttatactgt cctaagaaaa aatcattcta ttaaacaata tcgtggagtc gtttcagaaa 120  
cgtcgtaaaa taaagacaga aggcattggc ggggtgtcac gtgcaaagct tcgtcttatg 180  
acagacttga ggttgatgaa gcaagagcct ccagaggggt gtagcgctag tcttttgagt 240  
gacgacaact tggtcgtttg ggggtgccact atttttgccc cccctgatac tgccctgggaa 300  
ggaggtatct acactttgcg acgaactttt agtgaagagt atcctgataa accaccgagg 360  
gtccgtttta cttgtgatat gttccatccg aacgtcta 398

<210> 177  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-B12

<400> 177  
cggacgcgtg ggggaggatt cgaggagaga gacagacaga tggccaacgc tggtaagat 60  
ggccttgtgc aagtcaacaa acatagaaaa gtaaagagat tgcaagaaga taatattttg 120  
aatagagcac tatcacaacc aggagatgta tttctgtgct tttgcaacat ccagttgttg 180

gtgaatgcag aaagagctat tataggaaat attacttgtc cagaaagtat cgaattgtgt 240  
 cgtctattag ctggacatat agcggtttgg ttogatgaac atttggatga ctttcgtttg 300  
 gaagctatct tgggagcact atttgttact tgttattgtg agtggaagcg ttttgaagga 360  
 gaattggggg tacaagaatg gaatgaattg gagaagatat cttcc 405

<210> 178  
 <211> 353  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-B2  
 <400> 178

ttcggcgtcg acccacgcga cacgtgctga ggatgaagca agttgggaaa agttgtggag 60  
 aggaaaacgc gaggtcattg gatatacttt ggaagcagct ttacagaaaa cttgtattgt 120  
 ggaaaaccag ttgagggagt ggaaaaagaa actcgatagt ctagcagaca attattcggt 180  
 gggtagcaga gcctatgatg cgagaatgtg gtcattggac ctcatcgcaa ctattatgag 240  
 tgtctgtttt gcagtttttg gaatgttttc acaattcttt ggttattatg tccaattgcc 300  
 cattttacat atgggaaatg cgagtcagta ttacttttaa ggcgttatgg gaa 353

<210> 179  
 <211> 459  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-B3  
 <400> 179

ggtccgacat tcacgggttc ttgtcttttt ttttatttta tttttttttt tttttttttt 60  
 tttttttttt tttttttttt ttcccccca aaatccaaaa atccgatgga aaacttgctg 120  
 gaaaatgggg tccttaacca cctaacttgg ggcccctggt gggaaaattt aaagccccc 180  
 aaaactttac gggctttcca atcagaaaaa tgaacggttt tattgaggcc cctaatagact 240  
 tggatgctgc caaaaaattt gaaagtaact attggagagg aaaattgggc gcccaaggga 300  
 aaactactgg ggggtattat taaaaaactt gtccccaaaa aaatttccgc cggattgttg 360  
 gattttgggg aggaaaaaaa aaaaaaacg gcggaaccac ataaacaaaa acacaaaaaa 420

aaacaaaaaa aagaaaaaaa aaaggggggg cccccaaa

459

<210> 180

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-B5

<400> 180

gatagcagta tggcacccaa aggatccaaa agtgtaccg ttgctggaaa aaagcccatt 60

ggtaaagcag aaaagaaaaa agccaaaaag aagcgtgcag aatcttacag tatttatatt 120

tacaaagtgt tgaaacaagt ccatactgac actggtatat cttccaaagc aatgagcatc 180

atgaattcct ttgtcaatga tatatttgaa aggattgctt ccgagtctag caagctggca 240

gcatactcaa agacaaaaac tcttacttcg agagaaattc aaactgctgt acgccttttg 300

ttacctggag agttggccaa gcacgcagtt tcggaaggaa ccaaggcagt tacaaagtat 360

acttcttcct gaattcaagg ttgataaata gactagcgta caagtgtttt tgtgtgtttt 420

gaaaagtttg 430

<210> 181

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-B8

<400> 181

gatgatttta tgtccttgtg gtagtagtaa tgtctaggct tggctaattg tcgccagtaa 60

cttgtcttcg tcgttcttct tattattatg agtgaaaagg tggagaatgg tactaataac 120

gagttgttag aaaaaccgag ggttggtgata tttggtgctg gaggcgtagg tggttatttg 180

gctgccagac ttgcagagtg tggacgtagc tttgttcacg tcacgccag aggttctcac 240

ttgaaagcta ttcaggaaaa taacaattgc atcgttttaa aaagtatoga tggtgactgc 300

acttcccaat tggatagcat cggggaggac gcacaaagtg tgttgaacac tgcgacaact 360

cccgtaaatt ccgtgatatt tacttgcaaa atggaccagt tggctgctgc agc 413

<210> 182

<211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-B9  
 <400> 182  
 gagggggggg gtttcactcg tgtgttttct cttgacaaaa ctcgaagact atttatttct 60  
 tgttatgttt tagaggtttt tctagagtgt gtttttggag ttgttgact tccagtcttg 120  
 gtggttgggtg aatggctcta gtgacaaaga gaagagggtt tgtcactttc ccgccattct 180  
 ccacagcttc aactatcaac ttgtatacgc gcacaactac acagctatat taatacagag 240  
 ttgtggtgta ataggcggca atttgagtgg ttgaaaagga ttggtgaaaa gtagaagact 300  
 agtgaagggtg ttagagaaaa ggtccttgta ttttgtacc ctctactaac tatttctct 360  
 tgaagagatt tcaagtttgg tgtattcgac aagagttgca agtggtta 407

<210> 183  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-C11  
 <400> 183  
 cgccaatcgt gcctgcacta gaagatgaat ggcatggtcg tcatctgcta gttctgaaat 60  
 atcgcttggt tgaaccagaa gttccttaag accaagcatt tctgatgtga atgattggat 120  
 attctttcca agcagcgttt cttcctggcc aatactggta ttagatgctg aaccgctttg 180  
 ggcaactcgaa gaatatgttt tttttgatac tattggtgat aatatggagc ttggaatgtt 240  
 tttcagagcc cttgttccat atacataagg ttttccttct tgcgtactt caggaaagtg 300  
 gtacttgaga ttcttgctat ggaagcgttc catccaaaag agtgctgccg gatccattgc 360  
 aaaagaggag gatgcttcca gctcttctgc ccatgctcta atc 403

<210> 184  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-C12

<400> 184

caggaaacaa ccaggaaacc gctgttttca tgcgaagaaa aggtttttatt ctcccaccaa 60  
cgactggcga ctttgggtta ggtgccaagt cgacgaacaa aagttggggc taactccaga 120  
actgggaaga ctagtaaata gttttgcagc agctccagac cctaaactta ggattcaaca 180  
gttgctttac ttggcacaga ctttagagcc cctgcctttc cagtacaaga caaacgagaa 240  
taaggttccc ggttgtctct ctactgttca cgttattggc gtctgtgaag acgataaaat 300  
ttttttcaag ggagattctg acgcacagtt aaccaagggt ctacttgctt tgcttatcaa 360  
gggtttgaac ggttacacag ttgaggagat tgaaagagtt agtccgaa 408

<210> 185

<211> 296

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-C4

<400> 185

gggccagcca cgcgtacgca cacgcgtccg gttgaaaaat acttgcgag gtttttccga 60  
tcccaattcc gctcaaattg cgggtttattt ggggtcaattg catatgatcg cggaatgcat 120  
gtggcatagt acagaaactt tgcattccgg agtctataga gaaactgaac aattaacttt 180  
gagtaactgg tttgcaaaag aagaagaaga ataaagtga tatcgtcgtt tcaaaaaaaaa 240  
aaaaaaaaaga aaaaaaaaaa gaaaaaaaaa aaaaaagaaa aaaagataaa gaaaaa 296

<210> 186

<211> 363

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-C6

<400> 186

ggtccgtaat cacggggcca cgcacgcgtc cggtacgaga aagccaagtg aggaaaagaa 60  
ggcaagtaga aggcggcccg agaaaggaga gggcgtaaga cgtgatacag agtaggaaga 120  
aaagagaaga gagctagaaa ggaggtaaaa gaagagtaaa aggactagaa gaggtacgga 180  
attcacgagg aaggagcgtg aaggaaggag gaatcccaag taatcgagga agaaaaagct 240

tcggtgaaag cgtgaacgga tttgtacac actgcccgtc aagttctgga agtgtgctaa 300  
gaataagcac gggaagtaaa agagagtaag aaaaaaaaaa aaaaaggcg gccgcccac 360  
aag 363

<210> 187  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-C7  
<400> 187

aattgataag gttgtgcttt attggagcga gtgtttgtgt tgtgactcag ctatagagac 60  
atgtatgtaa aagtaaacg acacaaaaa atttatttta ttttctgtga acccaacgat 120  
tctatcgag tcataagac agaagtatcc aagttatcgg atattccagt ggaaaatatc 180  
gaactatgga agaagatacc aaccgcccct gtaaatacac aagagcaacc acaatactcc 240  
aagacaagtc gaggagggtt tcaaaggctg gaaaagaccg tacaagaaga aggaatagtt 300  
aacggagaaa cgctctattt gacgtttgga accgacgact atacagatat tgaagtgcag 360  
ccgtttgaac actaatcaca cagtctctgt ggaaaccctg ctatggaaaa aggcacatct 420  
gag 423

<210> 188  
<211> 222  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-C8  
<400> 188

ggggccagca cgcgtccgca aacacgtccg attccgtctt gtggtgtcaa ggatgacgct 60  
tgcacgttgg taccgcgctt tttccactgc gtccagttct gtaagaaagc taccgccagg 120  
tttcgacaag gcagcttccc ttccgaaaga acaccatgct catgaagcag aaaagtggaa 180  
aagactttcc cttgcctttg gtttggtcgt tgcaggtggt gc 222

<210> 189  
<211> 405  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-C9

<400> 189

cccacgcgtc cgcccacgcg tccgtaacaa tattcctgcg aggccaagtg gacatagaac 60  
agaaatacca gcacgtccat cttcatcgac aacaaccaca ggaggaggaa cagcagctta 120  
tcatttacct cactcacctt attatggcaa tcctttctat tcagggccat tctcttctgc 180  
cgttcatcat agcaactttg gtccgttttc cgtttcggcg tttggtcctt ttccttcggt 240  
at ttggactg cagtttactt atcctcctcc tccttctcat gtatcctccc aaaacgggtg 300  
ttctgtagct gaaggtatga cagaagaaca agccaatcaa gcctttgttt ctcgtttggt 360  
gcttgtaatg ggtttactta ttatattatg tcttttattt gtgtg 405

<210> 190

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-D10

<400> 190

cccacgcgtc cgcggatgag cagcaacagc caaaccccaa aacgaaacac caaccagacg 60  
gaaaaagtcg tcttggtgtg gtttttactg gacgcttgta cacacttgac aacagaactt 120  
gcctttgtat accactcctt aaccacaacc gtggaacgag ccacacactg gactgccttg 180  
ttgtggaagg aatatgcaa agctgatacg agatggggtc gttttcacga ttgtactgtg 240  
gcgatggaag tagttacttc tctcctttgg ggtcctctag ctctcttggt tgcttatggt 300  
gtgtatagaa gagcagcttg gagacatttt tggcaacttg ttctttgtgt cggatgaactt 360  
tacggtgggt ggatgacgtt tggacccgat tggttgacaa gttttg 406

<210> 191

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-D11

<400> 191

gaattctctc atgctcgtggt tgcgtcgtgg ttattcaaga ttgtggtttc gtagtttatg 60  
tagcaacaat cggaatactt ttcgcgagga atgggaacat ttaccgcaac aagaacaaga 120  
atggaaaaga gcaggcaata cggaaaaaca aggttcattg ggagaaagaa aacctaccc 180  
tttgaagcct cttgacttgg acaccagatg gagtcttggg agcttgaacc gtgccatact 240  
cataggatat gtgggtaatg atccggtgaa aagagaaatt tcttcgagca cggtcgcttg 300  
gatgtttccc ttcagtaccg cttacaagaa aagaacggga gaccaagaa caatcaccga 360  
ttggcacaat gtgacagttt atgcctctcc ttctgcaaag tttt 404

<210> 192  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-D12  
<400> 192

tgctaggctg tgcaaatgtc tcgttattcc atcggcgctg acctcgtgtt tctattacaa 60  
cgcagtgatg aagatgcaca agaactggatg cgacatcgat tgtacgatcc atcgacaggt 120  
gttctttatc atcccgctcta ttttccacct ccggcacatc gcattcctta tttgcaacga 180  
cgaatggacg atcaggaagc ggtgatgcaa aagcgattgc aacaatatcg acaaaatact 240  
ttgccgctcg ttcatttttt ccaagtgagt tgatgtcgct tcgttggtgt tgttttttat 300  
acacagttat cgaacaaaag gacaaattgg tgtggataga taccagtaat aagagaccga 360  
cggagcaagt atttgaagaa atctgtcaac atgtggaaag a 401

<210> 193  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-004-Q1-E1-D3  
<400> 193

cgtccggcaa caaagagcat gtcgtccggt ctagacaagt cgttggagga cattatcaac 60  
gaacaaagaa agaacaagac accgggaaaa aggaatgctg gaaaagggtan aaagtttgct 120  
gccgcttcta aaaagctttc tgtcaaggga aagattggaa agaagagaat gggaaataag 180



atgaggatgg atgtcgacca agagacgaca agtggaaagc gttggaagca cgataagttt 240  
 caagctagtg gtggtggtag tgctccaaag agtcaagtaa ctggtgtcca agtcaccaac 300  
 ttggcactcc gtgtgaccaa caaggatata aacgacctcc ttttctgaa 349

<210> 194  
 <211> 85  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-D4  
 <400> 194

catccgtact cattggcttt taaagcgctg ttgcctgtat cttaacagga tgcattggcg 60  
 aatcagaaaa tagtttgccg aaaaa 85

<210> 195  
 <211> 259  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-D5  
 <400> 195

ccacgcgacc gacatacctc cgttggcgct taggccgtgg cgtggggtga catgggggtac 60  
 tggccaagca ggagtccttg ggacacacgc tatgtccaca agttcatacg tttgtagcgt 120  
 gtgagtactt gcaatgacct ctctagtacg agggacgcga catgacttac cagcccacaa 180  
 accaacatat gaccaactgg tggtcgaact atctcaactc aaggcggatt tattcgcaga 240  
 aagacacaag ccgaaaggt 259

<210> 196  
 <211> 79  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-D6  
 <400> 196

taacagttcc caatagcatc atggaaatga ttggcacggt aaccttttca gaaagttgaa 60  
 tgacaaggat caaaaatat 79

<210> 197  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-D7  
  
 <400> 197  
  
 agaacacaac aaaatTTTtac aacttgCGtt tcatagTTTT ggaactaact tgacatgcaa 60  
 caaagtaacc ttcgagtagt ccaatcttct ttggTggcaa gctttgtcct cattctaagt 120  
 ataatctgtg ccattcatgc agtaacagcc gatgaaataa caagtttcga gagaggatac 180  
 caaacagttg caccaactca gacgcagcaa tgtcaaaaga tttgtgtcac cgccacacaa 240  
 actcaagttc aaagttgtat ttatactcag acacaggctc tgttcatgtc tcaatgtgtc 300  
 acagcattgc caactacctg ctataaatac gtaacaaaat ataagcaggt gtgctg 356

<210> 198  
 <211> 242  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-E10  
  
 <400> 198  
  
 acgcgtacga aaacagatag agaataaaga actgaagaga aaagccgtac tgaacaccga 60  
 cacaggtact cgaggagaaa tgagactcac gttaatgtga gagattggat gataaggatc 120  
 tatgcagaag gatatggtat ctgcgggtata tcatatgaca catgcagcac cgactgttta 180  
 tcacatacat agcactctgc atataagata aaatggtcag tagagattgt gcggcctgcc 240  
 ac 242

<210> 199  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-E11  
  
 <400> 199  
  
 attggttttt gggcatttgt agaagcgttg gctgttgcat aaagagctat gtcggaagag 60

tcagacaacg aaggcgtgga gatcaagtta gagactgcac ctcatgatcc tcgcttccaa 120  
 actactaatc aagccaagca ctgttggtcg agatacatcg agtatcacgc ttgtgtgaaa 180  
 caaaaagggtg aagaggacag cgagtgtcaa aagtttaagc gatgggtacaa gtcactgtgt 240  
 cctatggaat ggggttcgtaa gtgtttttcc aacagcttat acttaagtga tttctaggta 300  
 gaaaactggg acgaacagcg tgccaacggt acctttcctg gtcccgtgta gttgtactgt 360  
 tccacgtggg cccttttgga gtttaactga cctgttggtcc g 401

<210> 200  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-E12

<400> 200  
 cccacgcgtc cgcccagtaa tgaggagtgg agtaaacaga aaaggaagta aaaggaggga 60  
 atgaagggaa gttatggcaa aaacacgtgc cagcagcagc ggtaaaacgt gtgtagcaag 120  
 cgtagagcag aagaactggg tgtaaaggtc gagtagtaga gtaagtgtaa aagggaagg 180  
 aaaggagaga aagaggaaag ggatgaaatg cagagatctc tagagaaagg caagaaagaa 240  
 aagaaaggaa gacacagtaa atgaggcgag aaagcatagg aagtgaaacg gattaggaac 300  
 ccgtgtagtc tatgcagtaa aagaaaggag caaatacggg aaagcagtaa aagaagaaag 360  
 agaaaggaaa aaactgagta tcaggaagaa aagagggagt agatg 405

<210> 201  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-E9

<400> 201  
 agaaaagaga gagaagaaag aaaagaagag aaaagccgta ctgaagaccg acacaggtac 60  
 tcgaggagaa aggagacca aattaagggtg agagaatgga cgataaggaa ctaggcaaaa 120  
 ggatatggta tctgcggtag aacatatgaa agaagcagca ccgactgttt agcaaaaaca 180  
 cagcactctg cagaaaagag aaaatgtaaa gtatagagtg tgcggcctgc caaatagtag 240

agaagaaatc gatgaaagtg aaagcgagta aaagatgagg tatagagaat ggcggtccta 300  
acggtaagga tccaaaggta gcgaagtaaa tagacgtttg aaaggcgtcc agtatgaaag 360  
gagaaacgag tgtagcactg tctagtcgtc caactcagcg aaacagc 407

<210> 202  
<211> 347  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-F1  
<400> 202

gggtccacgc acgcgtccgg gcaattgaaa tttcgacatg ttttgacgct ccggagggaa 60  
catttcgtca ttttgataga ggttgtatgc cgaaagtctg ttttgcagga atgatgcagt 120  
atgatggtga aagtaaaatc ccgaaacact atattgtctc acctcctcat atcgaaagga 180  
cccttggaga atatttgggtg cataatggat gtcgacgtct ctccataagt gagactcaga 240  
aatttgggtca tgttacctat ttcttcaacg gaaatagagc aaacaaatct gatgaggaac 300  
tcgaacttta tgtggaagtt ccaagcagca gagaaagaga aaatact 347

<210> 203  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-004-Q1-E1-F10  
<400> 203

ggaatctttc gattttgggtg aagtaatgat acatcaactt atacatacta tcgagtttgt 60  
attgggagca gttagtaaca cggcaagtta tcttcgttta tgggcgctta gtttggcgca 120  
ttctgagttg agcttgggtc ttttagaaaa ggttttgtat aatacgattt atttacaaca 180  
tccgatagcc attatgatcg gtttcttact ttgggcattt ttgactgtag gcgtgtttgtg 240  
tcttatggag tccctttctg cctttttaca tgccttgctt ttgcaactggg tagagtttca 300  
aaacaagttt tacaacttgc aaggagaagg aattaagttt actccaatat cctttttctac 360  
ataaactagt ctctgttttg gaataaatgg ttgcaataga c 401

<210> 204  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-F11  
  
 <400> 204  
  
 tgtcccacca acaacaacaa caagaagatg atgggacaac ctcaaggcta gcgtctttga 60  
 aaagttatga tgggatattt accaacgtat cgataacctg gagtgggtga atagttagca 120  
 aaagacaatg tggaaagact ggttggtaga attgaaaacg agatggaacg acgcttttga 180  
 aactatgtg agtcgcatgg tggaagagtt gaaacaacaa caccgattcc gtacagtaac 240  
 ggaggaagaa agacaggcgt tgattcgtcc aattgtacaa gcatttgaag atgcttggaa 300  
 gagaattcgc aagatgatgg tagaagatgg ttgaatagaa tgaggaggga gacgagagcc 360

<210> 205  
 <211> 310  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-F2  
  
 <400> 205  
  
 ccaacgcac cgcggacgcg tgggcggacg cgtgggcgga cgcgtggggc tactagtga 60  
 cagattgttt caaattcggg aggagtccat acacttgtct ttgttcacac aaagagtcca 120  
 ttgttttttg cggacacttg aagacagttg gaattggata aaagatacga ggggaccaga 180  
 tacatagtaa agcctttccg aggagaattt tgtctgcaat actatgaaac aggtcatgac 240  
 tgacacaata cactttctac aaacagtaga gcagagatgc atacaatggg acaaactgac 300  
 atgaaagctt 310

<210> 206  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-004-Q1-E1-F4  
  
 <400> 206

cgtacgcata cgcacccgag tgagtatgtc ctcaacaata ttgctgttca cgtgcctatc 60  
 actcagatca tcaacttcag ttattgacgc aggcatgtgc attgatggcc gtgagtagat 120  
 atgctcttat tgtggtcgaa tctgcaactg ctttacatcg tacagactag acctgaagag 180  
 gagaacttgc agctatgcaa taacatatgg cgagggtttct tcgagcactt caaaagctag 240  
 cagatgaatt tgggtgttgc gttgttataa cgaaccaact agttgcacac gtagatggtg 300  
 gtgcaatgtt tgctgtcgat cctaagaaac ctattggcgg aaatattatt gcacatgcct 360  
 ctcaaacgag gttatatttg agaaaaggaa gagcanagaa tcgcatatgt aaaatatatg 420  
 attcgccctg t 431

<210> 207  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-F6  
 <400> 207

cacacgcgtc cgctttgtgc ttggacaatg gttgcaaaga ctgctctgag ttgcctcttt 60  
 ctctctttcc ttatcgctgc cgcagttgca gccgacgtag tttcagagga gagatgggga 120  
 tatgctcagc aaaccaaca acagcaacag tgccaacaag tatgtaaaca gtatgcatac 180  
 tatcagagtc cagtctgcac ttccgtaacc acacagagcc catactggac ccaatgctcg 240  
 aagactgtgc aaacctttgt cccaagccag tgcagtactt ataccaatc tcctacatgg 300  
 acctattgca gcacctaaac caccactagc gtaccatctc aatgcagcaa gggcgtgact 360  
 acctatactc aaacctgctg tgcttatgcc caacaa 396

<210> 208  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-F7  
 <400> 208

ccacgcgtcc gcacacgcgt cagcccacgc gtccgcgaag ttacaattct cggggcggct 60  
 cattttcaaa taatggacgt tatggctacg ggaatcatag caataatttc ggaaggagcg 120

gatagcttct aataaaaatt agtatctagt tattcaaaaa aaaaaaaga aaaaaaaaaa 180  
 aaaaaaaaaa taaaaaaaaa aaaaaaaaaat aaaaaaaag taaaaaaga ggacaaaaaa 240  
 acaacaaaaa ttcaacataa aaagtcaagg ggat 274

<210> 209  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G11  
 <400> 209

cgacttagtg gttaggatgc ctggttttca cccaggagac ccgggatcaa gccccggcag 60  
 cggaattgct tgtacttttt gaacaaacac ttgtatctag atacgagcag tattccgaga 120  
 agcttggttct gtctcacgtt tcaagcttgc tttttggctt tctcttatgg gccttggtga 180  
 gaaagagttg actgaagggg ttgatcactt ttacagcact cgaagagggg tttagccggtt 240  
 gggttgattt ccggtgaccg tgtgatataa ctaccacttg attcttcgag tattgaaact 300  
 atgaaaaccg aaacgaatgt ttcctcacga acttctacgt gatcttgctt tctcaactca 360  
 tcgcctgcat ttaaaagcac tccttgtaaa ttcctctgga ac 402

<210> 210  
 <211> 241  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G12  
 <400> 210

cccacgcgctc cgaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
 taaaagggcg gcagcacaaa taggttaaac atttagattc acctgcaggg gacgtcataa 120  
 ctcttctaata ctgtcaacta aggttcagtt ccatggtcgt cgttttataa cgtgcttact 180  
 ggtaataccc tggcggttgc catcttaagc gccttgcttc aaaacaccct ttcgcctcgt 240  
 g 241

<210> 211  
 <211> 422  
 <212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G2  
 <400> 211  
 gaacaaactg cctaagcata gttaacttaa tatcagaaat acaaacgaac tgccttagtt 60  
 gtgatagaat ttcgccaagg agaaggatca aaacaaccca aaccacctag ctgaagtatc 120  
 tcctggaaac agagcttcca atacatgcag gaggacggcc ttagcgcaag cagtcacaga 180  
 cctcgctcgt acccagtaaa ctgcgaatgc cagactctag agatagagca cagtccttac 240  
 tctccatata gcacacacaa ctagaacctt ttctcattcg catggaagtt ttgctctggc 300  
 acgtgacgac ttgtgcagtc cagcacgaat ttgaagctct gggttcatcc atgctttttt 360  
 tgggatagaa tggataacta gaacctttac tcattcgcat taaaccttca gatgtcacgt 420  
 tg 422

<210> 212  
 <211> 343  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G3  
 <400> 212  
 cgggtccacgc acgcatccgc agacgcgtgg gttcaatgc gccattgcc gaactgtttc 60  
 atgcttttgg aatagttttt gggtcttctg ttattcgaga taatttggat gcgactggaa 120  
 actctgctgt gtctatgtta ttattatctt ctgcaatgct tgcttttggt tctcaagctg 180  
 gtttaggttc tagtccagca ttttcacttc ccaaatatga gatactatca ccagttgtgg 240  
 aacttccgct atatctttta ttgggtcttt tagccggttt ggctcttttg gggttgaaat 300  
 attcttttgc gttgggaagt aacttttttc aaggcaaatt gtc 343

<210> 213  
 <211> 182  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G5  
 <400> 213



acgctacggt cacgtgaccg catgaatcgt gttgcaaacc gattgtcgt ctgaaaacca 60  
 ttagtaagat cgcacaggaa cagtcactgg ctgtacatcg tttacgatcc gtgctagtat 120  
 gagcgtttcc caggattgta acgagagcat tcccaaggac tgaggcgact acaatcgaaa 180  
 ac 182

<210> 214  
 <211> 315  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G8  
 <400> 214

ccacgcatcc gaattttttt tttttggggg aaattttcat ttgtttattg caaaactgga 60  
 caatcatcaa agctgtcgtt acttgcttcc accaagttct tttgctctaa ttgtggcagc 120  
 agtgacagct tgaatgactg cagtgcgaaa gttgtgcttt tccagagtag aagttccgtg 180  
 aatagttgtg ccaccccgga gatccagtgg agtgggaagt tttgccggat gttcgggtgcg 240  
 acgaggagcg acgtttgctg cacccaaac tgtctgagt gctagagaca atggaacatc 300  
 cccaaggtaa gccac 315

<210> 215  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-H11  
 <400> 215

cccacgcgtc cgggttttca ggggaaaagc aaacaagaat ggcagtggat tggagcagtc 60  
 gtccttgcac ttggcagagg ttatgtattt tggttgtgct tttttgtatt gtgttccaac 120  
 tggtagacag taccacaaca aagcttgtca agattgagaa actggatcgt actattgact 180  
 tgagcaaaag ttacgtaaca gaaaagggtg tgataaagct gaacactgca aagtgggacg 240  
 cattcgagct ccttgttcct tttcaacagt atgaagaaag tcttgacat attcatgtgg 300  
 aagattcatc cagtcgtgca ttgcaagtaa aggagcaacc agaacgggat gtattgtatc 360  
 gcaaactggc cgtccttcca aacgcttcta cctcggtcag tgacac 406

<210> 216  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-004-Q1-E1-H12

<400> 216

gggccaacca agcgtccgaa gaacttggtt gtacttttagc acagttggca attgcgtggt 60  
 gtgcatcgaa tccaaggtt tcgactgtta ttactggagc taccaagttg gaacaattgg 120  
 aagagaattt tcgagctata caatttggtc caaagttaac tgcaaagaaa atgaaactga 180  
 tcgatgaaat aactggaacg aagcctgact acaatgcgga aatgaaaatg gcacgtcgca 240  
 ttcgaggctt ggaacgatga gtccacacaa gaagaaaaag aggggttgga aaagacancg 300  
 atcgatgggt gtaacacaac tagttattca tttattcagt aaagtatcga tactgctgtn 360  
 accgaaaaca acaacaactc cctaaa 386

<210> 217  
 <211> 319  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-H2

<400> 217

gggccaggac gcgtccgga ggaaaaacgg acaaggacca cgacgttggc aactttgttt 60  
 caccaaacia cgtcgcagaa ataagaaaag aatttcttcg taaagcaaaa agagttcatc 120  
 cagacaaaca aagacataat gaacgtgcc aatgaggagt ttgtcttttg aaagaggatt 180  
 atgaacgtct cgtggaggca acccaaagca accacacaac gagtagaaac atacttgtgg 240  
 aacacattcc cttggaaaag tggaagagaa caacgacatt gcaagaaatg gacaataaca 300  
 actacgcgga caatcatca 319

<210> 218  
 <211> 253  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-H5

<400> 218  
 cgtccgcaca cgcgaccgaa aggtacttct catagagccg ttctagtaac aaacttgagt 60  
 ccagaaacca aggaagatag tctggaagat tttttttcgt tttgcggaaa gattacaaat 120  
 atcaaagtcc gagaggcgca acccccaagt gaagaacaag aaggtcaaca gatacccccc 180  
 tcaaaggaag caatagttgt cttcgaatcc agatctgctc agcaagttgc tctgttactg 240  
 aataatgcgg tgc 253

<210> 219  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-H7

<400> 219  
 gtccaggacg cgtccgcca cgcatccgcc cagcgtccg gactgcaagg acaaagcttc 60  
 tccaaagaaa atcgagagt atacaattcg tacgttacag cgtactgtgc cagctgccgt 120  
 acctggcatt gtcttgttac caggtggaca gtcagaagaa gaagcttccg tgaatctcaa 180  
 cgccatgaat caagtggaga tgatcaagcc ttggaaactt tccttttctt acggacgtgc 240  
 tttgcagtca tcatgtcaga aagcgtggca aggaaaggca gataatgtcc gagcggcaca 300  
 agaagccttt ttagctcgtg caaaagcaaa tagtgaggct actttgggggt aatatgc 357

<210> 220  
 <211> 118  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-H9

<400> 220  
 tgatgcctgg ctttcacaca ggagaccggg gatttagccc cggcaccggc atggccagac 60  
 ctttgtgaac acgcagctgt gtccagatgc gggcagtatc cgcacccacc tgttctgt 118

<210> 221  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-A1

<400> 221

ggtgtttgca tcgttagatg aagcttgtag agcttgtcga gagaaacaaa atgagtattt 60  
gggatggaaa aagatacgtc ttactccggt catatgagaa atgagcaacg acggccaaga 120  
ggagcaactt ggtcgtggtg gtgcttctct gcttccaagt gccaaaagct tacttgtacg 180  
cgaagaaaaa gaacaaacag acaaacttgg actctttccg acgttggttt tcttggcact 240  
tacaccagaa actagtcaac aattggcaga ggtcattggg agtcagttga aaggagatac 300  
ttggacactt tcttttcccg tagtggacta taaccagacg ttgctaccat caagtaggaa 360  
caatgataag tatatagact cgtctacgtt tcattcagat actccaagtg cgt 413

<210> 222

<211> 388

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-A11

<400> 222

aaggggagaa tatccgttgc atgtgtttgt gtgtgtgtgt atggtcatta aagccaaact 60  
ctgaatgtgt ttttgttaac actggaataa gaaacagctt tagaaactta tgggaaaagg 120  
ttcagccacg agaggtcgtt acaagtacga gttgtggcct gcgaacaaca agtttttttg 180  
tggaggaaaag ataattaccg gtcccgacta taaaaatact tttgcgacac tgttggttgg 240  
cattatcccc ttgggactgt attttggat aactatttcc tatctgacta cgcattggag 300  
agcaggaggc tatactttct tagcacttac catattcctt gcttgtgtgt ctataataac 360  
tttattgtta actgcaacag acgaccc 388

<210> 223

<211> 468

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-A2

<400> 223

gtaaaaatggc gccaatgttt tcctttgtga tactttacaa gtcacgacg cacttttctt 60

gttggtttttc aaagcaaaga caactgtggt ttgcacctcg cagttatcgg aggagtgttt 120  
tagtcagtga aaagactgcc tcgaagagat gtgtggcttg cgtagatatg ccagtccaaa 180  
agtcttccga aaaggatacg cggcaagctg caaaagcaac ggaccattcc tatgctagtt 240  
tggaagccaa ggtgcttata gataacgaaa aggactttta tcacactggt atctcccttg 300  
agtggtaaga tagaccaggt ctttttgaag gacttgacaa gttggtccag aaacagctgg 360  
gttaacagta tgacgagtct tggcgaaaaa cagagaaaca actagcacta gatacttttt 420  
tcgtcacaga tagcgggttcc aaaatttttag aagaagattt tgaaaaga 468

<210> 224  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-A8

<400> 224  
  
cccacgcgtc cgcccacgcg tccgcccacg cgtccggact aatcgtgtga agctcgacag 60  
cgtctttaca catacacaca cacacacact aacacgtgca aggtttcttg cgggaaagta 120  
cttgcgacaa ctagagtctt tactacaaag ggaaatgtga gagcgttggg aaagttttag 180  
tagacttggt ccgctattgc gtatgatagc caacctgttg tgtcagttgt atgtatggct 240  
ttagacgaaa ccttggtgaag cgagagcttt tctttatcgg acaaggcaat tgtaccgaga 300  
aaacgacttg tgacaacctg actcggattg actgacagat attcgggtctg gcgggttttg 360

<210> 225  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-B12

<400> 225  
  
cagacgcatg ggcggacgcg tggggcggac gcgttgggcg gaccctggg caacaacaag 60  
gatcccgga tggttaaaat cttggcgggt taccgttgat attgaaagaa ataccttttg 120  
atataattga gtttccactt tatgaatatt tgaagaaacg atggagtgc aatagcaaca 180  
acaaggaacg attggagact tggaaaacgg ctacttgttg ttgtattgct ggtgcagttg 240

ctgcagctgt cacaactcct ttggatgttt gccaaaacaa aagttatggg ggtacaagga 300  
gaggcgaaga atagcagtgg aattgcttct actttgataa agattgcgaa agaaga 356

<210> 226  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-B3  
  
<400> 226

gggatgcagt tcgagggcta tcgttacttg tagtcagtct tactgcaata cattccttca 60  
tgattggatg gctgttgaag ataaagaata ctagcggact taggttgga tttcgagaag 120  
aagatgaaga cattggtgcg gacaacatca tcgtgttcgg aaggagacac tgtattcatg 180  
aatattgcaa aatatcttcc gttttattaa aaaacagaga gtcgtttctt ggccttggtta 240  
ctgttttggg aacaataggt gacaacgaac aattcacttt gttggacaca actggaaaaa 300  
gaagattgat aatttgtacg tatggagggtg tgtctagtaa gagaaattgg ccttgctgcc 360  
cagaccttgt gaagggaatc gttgctaaaa tgtcacaact aactgga 407

<210> 227  
<211> 445  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-B6  
  
<400> 227

tccggggcca cccacgcgtc cgcaagcgtg aaccgtgagg gtagttcatc atggttgaga 60  
caaaacttca agatggtggt agtgcttctc tttggactgt tcgtctcttc ctctacacag 120  
ttatttttagc attctctgcc actatcattg gcttggatgg acgtaaagca gacaacatat 180  
ggaacgacag cttattctat gatgggaagt acattaactt ttgtgcttat tctgcctctt 240  
ctgttgtaga aggagggggac catggagcgt gtaaatatgt catggcggtg gcgtctataa 300  
gtttgattct agtctttttc ttgtggcttt ttacatttgt agatgcgttg tatcctattc 360  
ttaccaagtt ttggtttatt gaattgggta tcaacgtggt tcaaacaatg tggtggttgg 420  
ttggagcaat tgttgatatc gcaaa 445

<210> 228  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-B7

<400> 228

```
cccacgcgtc cggttttggg aagacgagga atggaacaac tttctttcca agtcaacgag 60
ttattacagt cacgaagata tgatccagat atattaccag acttggaag atagttagaa 120
gcgcagtgtt tagaaggagc atatgatggc gacgcgaatt tagcttggtt aaaactttat 180
caattttatc ctgaaaaaac aaacgtttct attgtctcca agatattatt gaaagccttg 240
gcagcacttc ctagttccga ttttgtgagt tgttgtact tactttctga gaaaatccaa 300
cgagaggctc ctatatccac catcataagt tgggcggatg ctttagaaac tggaaagttt 360
gtagagtttt ggaacagttt acacaaccat gaagagttgt tgaaaggctt gccaggaata 420
gaagac 426
```

<210> 229  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-B9

<400> 229

```
gtccaggcac gcgtccggac tactcattt tctctttgtt ttgtcttttg tagctgtttt 60
cctcgtagct catgcagttc ccgttgaga agatgcattc agtttcagtc agacttttgg 120
aaatgcttct gcttcaggca acgcctctgt tattccagct acaaccaaga tccccaagtt 180
agaagtaact agtagtgct catcaaagga caatggaaaa gcagctcaag tagactttgc 240
agattactca aagggatatc cttgccttag ctatttttac gtccttctt acacatccta 300
tgtggaattt cctcaatatc catcctatcc atcatggcct tcttttaatg agcagcctgc 360
ctttggtggc ttcgatcca atgcagagtt tggagagtct gaaattttcg tgtgatggaa 420
acaaattgga ttccttacac tgagtt 446
```

<210> 230  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-C1

<400> 230

tcttgccatt cgacaatatt caccacctag tcatatatag gttcgtcgtc ccaccggtat 60  
 tcctcgtagt atgcttcaaa gcgtggaagc tccagttcgt ggaactgggt tgagaacccc 120  
 cggtggagag tttgttactt tgaaacccaa tcaagatgag tttagtcgca ggacagctgc 180  
 attgcggaga atggtggaac agagacaagg tgcaggcagt tccgactcgg agacaggtaa 240  
 tgtcgatgac gcaagtaggt tgccaactgt caaagacagc catgaagaca atgaaaatta 300  
 tcttgtcacc ggcaagcaag aatcgaagaa ggacgaagaa acggagggtga taggaaatga 360  
 atttggtgag aataaatcct attatcaaga 390

<210> 231  
 <211> 468  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-005-Q1-E1-C2

<400> 231

gtattcattt tgactcgtg aaacatttgg ccaacacgac atttcagaat agtagcaatc 60  
 tatttgaaga atactatcgt caaaatacaa gtgtttatta tgaaagagag cctgaaatcg 120  
 gtgagcttgt gtttctagaa gggaggtcgc ttgtgaaggt agttccattt gctctacctg 180  
 aaagtggcat ggatcgagat acaattgcaa aacgtttaga ggttttaaaag agaaactccg 240  
 tgcaggaatc tagttctcca caaagaacag attcgcatac ctatcctgaa aaagaatcct 300  
 ggcaaaagga gaaacatccg gtttcggaca gagagtcgag gatatctgaa aggtatgcac 360  
 aagacgaaga ctgccttca gctccacac agttggnatg atggcaacct tgagttttca 420  
 attancttgt aatttcacag aaataataaa tgagatactt ttactctg 468

<210> 232  
 <211> 402  
 <212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-C3

<400> 232

gtatttttgt ttgttgaaaa tttcattcat cgttgctcat tcttgttgca gatatgacag 60  
gtcgtggtaa aggttggtaaa ggtttaggaa aaggagggtgc aaagcgctcat cgcaaagtct 120  
tgcgagacaa tatccaagga ataaccaaac cagctatccg tcgtttggcg agaagagggtg 180  
gagtgaacg aatctcagga cttatctatg aagaaacacg aaatgtcctt cgtgttttct 240  
tggaagtgt tattcgtgat gcagttactt atacggagca tgctcgtcgc aagacggtaa 300  
ctgctatgga tgctgtatat gctctgaaac gtcaaggccg caccctttac ggatttggag 360  
gataaagcct gcttgaacaa aggggtgtttc tcaacacctt tc 402

<210> 233

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-C5

<400> 233

gccgttggtc cagagatggc acaagattac ctttgaagat acgattatth agagcaaggt 60  
gogactctag aacctttgta aacaacagag aggaggagga taatatccgt tgcctttttt 120  
cccatacgta atcaacactg agtatcaaac aatctttttc ttatggctct gcagttggac 180  
acgcacctta tgcggcagaa ataacaactg cagctgattc aagtcagtgg cttggctcca 240  
cctgtttacg aaaagaaggc ggaaggactt ggaaccacca acattgtacc tgctgtaaca 300  
gtttgtggct actgaactat tttaaaggat aagccaagcg aacttgtaac tctgtagaac 360  
ggtttgggcc ttgaagcgag ataggattgc aacttgcaac ggcaaggatt g 411

<210> 234

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-005-Q1-E1-C6

<400> 234

cccacgcgtc cggaagaaaa tggctccaaa aggtgcaaag agtggttcctg ttgcaggcaa 60  
gaaaccaatc accaaaagtg ataaaaagtc caaaaagaag aggtcagagt cctatgctat 120  
ctacattttac aaggtcttga agcaagtgca tccggatact ggcatatcct ccaaggcgat 180  
gagcatcatg aactcctttg tgaacgatat atttgaacgt attgccagtg aagctagtaa 240  
acttgcagct tattccaaga cgaagacttt gacttctcgt gaaatacaga ctgctgtacg 300  
tctgttgctc nctggagaac tcgccaagca tgaagtttcg gaaggtagca aagcagtaac 360  
aaagtacact tcttcgtaat acgtactttg aacatatggg gtttgtcaac acttttttgg 420

<210> 235  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-005-Q1-E1-C7

<400> 235  
cccacgcgtc cgcccacgcg tccgggaaaa cgtcatgcag ttgcgtattc cttctgctgc 60  
agtcaaagca cagtacgtcg acccaacgca agttgttgtg gaccctgtaa gacatacaac 120  
aagtcctctt gtcactggag gttctgttgt aggaatacga tgttgcgacg gagtagttat 180  
tgctgcggat acttttagctt cttatggatc gatggctcga tttcaaaaact tgctcgagact 240  
tgtaaaagtt actgacaatt gtttgttggg tgggtggtggg gaaatttccg actttcaaga 300  
aattcaacgt ctttttagaaa acctcatcac aaaggacttt tgttttaacg atgagcatac 360  
acaaagcccc cgatcagttc atcaatatat aggaagagta ctctatgccc agag 414

<210> 236  
<211> 101  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-005-Q1-E1-C8

<400> 236  
tttaacaata agttttgtaa ggctaaggga aattggtttt gtacaagctc ccaacttggg 60  
aaaatttccc ggtgtggaac catccttggc ttgttaacca a 101

<210> 237  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-005-Q1-E1-C9

<400> 237

tccacccacc cgtccgcagt cgtcaggaat tcctagtcgg tttggttgac atttggtaga 60  
 tatggcaact gcagtggaag gaaaacaaga aacagcaaag gacaccaagt tgaagaaggc 120  
 ctttgacctc aagtcattct tgaaggacct ggcagctgga ggtgtagctg gggcaatctc 180  
 caagacggcg gtcgccccta ttgaaagagt gaagttgcta cttcaagtgc agtattcaaa 240  
 tccgcaaata ccggaggaga aacgttataa aggcatactc gactgtttta caagagttcc 300  
 aaaggaacaa gggtttatct ctttctggag agggaaacatg gcaaacgtca tccgttactt 360  
 tcctacgcag gcccttaact ttgctttcaa ggacaagtac aaggccatat tcttggangg 420  
 agttgacaag aat 433

<210> 238  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D1

<400> 238

cccacgcgtc cgcgattgta ttgaacctct gcttgagatt gtattatctg atgaacagaa 60  
 aagattcggt gtcgacaatg cttataatac gagcgtaagt tctccagtat atgaggagcc 120  
 acatcccctt gtgactcttc gaagtacaga aggtttgaca caagaacaaa agcagttgag 180  
 aagaatattg aagaatcgct ggagtgcaaa aatgtctcgt atgaaaagaa atgaacagat 240  
 tcgcagggtta gagttcaagg ccaacgagca ggagagagtt atacgagaat tgctagaaga 300  
 aagagctagc ttgaagaacg aaattgaact gctgaagaga caagtggaga agcaacaact 360  
 cgatcctctc tgcggttcaa gtcagtaaata gagtataacg agcgacctga tatacg 416

<210> 239  
 <211> 428  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D10

<400> 239

caagctactg cgggagaaca agtaccatc agtttcaagc ctgaccatta tactttgaga 60  
ggaaagtgca tcggtatctt ttccaaactt gcctttgaaa atcgttccgt gttggtctat 120  
gccactagtc ggtgatcatc tcggttacgg aaattatctg cagtttttgg gttggtggtt 180  
tcttgtggcg tgtgtgggtg acgttggtac cgacgactgt gtgagagact acttgtactt 240  
gcttcattct actagttgaa atatgacgag aggcaaccaa cgtgaggtag atagacaacg 300  
agcacaaaag agtgcagaga agcacaaaga aaatgttcag aaagaaaagg agaattattgt 360  
tttgaaaaag gaaagggacg ccgaaataat gcgccaaaaa caagcagcag ccatggcaaa 420  
acagcaac 428

<210> 240

<211> 439

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D12

<400> 240

cacacgcac cgttttagga ttgaaggta aatatctctg acaagggcta ttggagattc 60  
tcatttgaag aagtttttaa taagcgaacc tgaggtgacg aaaatagaaa ggaaagactg 120  
gacttggtac gaattgatta tcttggcaac agatggttta tgggatgtgc ttagtccgga 180  
agaagtatct cacataatga agaagactgt ttcgaaagga gatttggtta caaacgtct 240  
cgtgaacgaa gcgatagaga aaggaagtaa agacaatatc acagcaattg ccatattttt 300  
gaatcaactc tgatattttt tcaaggcatt attgtttata tcagtgattg agcttttggg 360  
ataagagtca ataatagcaa tactaaagtc accgtattaa aaaagtcttc aaagcttcat 420  
ctaaaaaaaa aaagaaaaa 439

<210> 241

<211> 296

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D3

<400> 241

cgcgtccgct gtgcctgttg catctgcaaa tactgcacag atgcaagcta ttcagcaaca 60  
acaatatgga gggtccggtg gcaactggaa ttttggtgct gcataatcgtc caccagagac 120  
agactttaac atatccgtcg gttatcagca gcatcgaaca actattcaga tctcgatggg 180  
acctgatgag tcagctggct acttgggtcc tggaggtttc acggctgggtg ttggaccagg 240  
caacttgggt ctttccttca acatcaacat ttagtaaaact aggagcgttc catctt 296

<210> 242

<211> 455

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D8

<400> 242

aacaacaatt aggcactgga tgctttgggc agcattgttg tagttgccat acaagtgcaa 60  
gggactggag atatatTTTT aacaagttga aacagtttgt ttttcattat gcatacagag 120  
aaacaagagg aagattccac aaccaagtc aagacttttg aagacaaacc aaccaagaag 180  
ataagcaaac cgaaaaagga aaaagttacc aaaagggaga taaagagtcc caataaaaga 240  
aagcgtgcgt gaagttgttt ctttttgaag acgttggtta gactagtctt cctatagagt 300  
ctacgaaggg ttccattgcy tctcctcgac aaagacgcag gaaaacatct agcgtaaagc 360  
caaagaggtc gaaaggaaga agagcatcca aggcaaccaa gtcttcctaaa ggaacagtga 420  
gtatccgtat gtgttttttt gaaaaatgag cgaca 455

<210> 243

<211> 403

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D9

<400> 243

gagtataag gttgacataa acaacgctaa tatcagagct tataccaagt ttcccgatt 60  
ttatccaaag ttggcttccc tgattgtgaa gaacgggtcca tataagagcg tcagtgatct 120

ctataatatt aaaggattga cggaagaaca aaaggagctt atcaaaaagt atgaggatcg 180  
 cttcgttagca ctcgatccag ctccagaata tgaagtggac aagtttaaca atggactata 240  
 tcggtgaaac aagctagtct tttagcgtga gtttcaaggc gcacctttga cttgctctca 300  
 ctattgcgca ataataaagt ttctcgataa aagcttggtg gtttaaaaaa aaaaaaaaaa 360  
 aaaaaagaag aaaaaaaaaa aaaaagaatg agaggagaag agg 403

<210> 244  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-005-Q1-E1-E1  
 <400> 244

cgtagtcatt tggatatccat tcagaaaggt gactacgtag tggtagcagt atatgaacct 60  
 ggagtagcgc gtctttatgc acatccaatc gtcgatcat ccaataagga atttcggaaa 120  
 atcaggagga gtaacgtaat tcaacaacgt atcttgaact caagtttcga agctagttaa 180  
 ctatctgctt ggggattttc tgtacagatt gttttggagg tttcttcctc ttcacttgca 240  
 taattccatt tagaatctgc gatatgtatt ttacgaagga tagtatcgag attctttcga 300  
 tagctgccat gaccatcaaa agttggacag atgggtgata cgttgatatt ttcaactctg 360  
 ggacagtcaa tctttctcat tcctgcaata tgtttcactt gagagaaagt tcgatg 416

<210> 245  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-005-Q1-E1-E10  
 <400> 245

cccacgcgtc cgcccaggcg tccgcccacg cgtccgcaa gactgtgttc ccagatgaac 60  
 catctacggg aatggatcct gtagaccac tacgtgcatg ggaaatgatc gatcctgcta 120  
 aaacaggtcg agtgatggta ttgactcatc actctatgga ggaagcggat gtcattggctg 180  
 accgcattgg tagaatgtcg atacggatgt ttaggtgtca tggccacact ctacatttgc 240  
 tgaagaagtt tggcacagga tatcgctgtg tgagtttgtg taaggaagcc agatatgttc 300

gcacattttg attctcgaaa catacgcgag acctttcaga cagggatgaa ccgtcaacct 360  
tcaagtataa gtgtac 376

<210> 246  
<211> 250  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-005-Q1-E1-E11  
<400> 246

gcgtccgcct atcgtctgcg aagattgtgt tcccagatga acatctacgg gaatgggtcc 60  
tgttcgtcct ctacgtgctg gggacgtcat cgatcctgct gagacaggtc tagtgatgat 120  
attgactcct cagcgaatgg aggtagcgta tgtcatggat gaccacgctg gtagaatgtc 180  
gagcgggagg tttagggtgc ttggggccaca tctacattgg ctgaacaagt ttgggtctagg 240  
atategtctg 250

<210> 247  
<211> 455  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-005-Q1-E1-E12  
<400> 247

gtagccgtcc gacattctag ggtccaccga cccgtccgga acaatattcg ctgtcggcgt 60  
cgaaggcagc caaacgagca ggaagcaact tgaaacatgg ggcgtatgca cagtaaaggc 120  
aagggaattg cccagtcggt aattccctat aaacggaacc caccctcctg ggtaaaaacg 180  
acaccgaacg aagttgtcga tatgatttgc aagttggcta gaaaaggttt agttccttcg 240  
caaattggcg ttcattctacg tgactctcaa ggtgttcctc tcgtgaaaca agttactggc 300  
aataagatag ttcgcatctt aaaggcgaat ggattggctc ctgagatacc cgaagatctt 360  
tactttttga ttaaaaaggc agttgcagtg cgtaaacatt tggaagaaa taggaaagac 420  
taagaatcca agtttcgttt gattctcata gagag 455

<210> 248  
<211> 437  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-E5

<400> 248

aattcgacgg agacaacagg atttggtccc aatgttcctc ttcgactgta tcgcggacat 60  
agaatggcaa cagataaagt cagctaagaa gatatactct tatgtaaaag aatcaaaaac 120  
caaagaatat ttggagctag acgattcggt gcagcagcca gtggattcat cttgtagcac 180  
caagtggctg tttattgcaa cccactggt ggaagtgtgt tgtactgatg ggcagcgaat 240  
tgaaatgatt cctttgaaga aagatataaa ggaattgttt ttctctactt taaagaagaa 300  
ctttgagggt gaacgaagcg tcatgggagt gcagtgtagt tgaaacggca gttgctgtgt 360  
ttagcaagta ttatgaacag tgcgtggaac agtactatct agcaggcaaa gattatgagc 420  
cacctgggta ttccaaa 437

<210> 249

<211> 440

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-005-Q1-E1-E6

<400> 249

cacacgcgtc cgcggacgcg tgggagagca gctgctcctc agagatggta tgaggaacaa 60  
tgcacctcat actgctgggt tccagtacag acctatgaaa cttatcaatg ttctcaagag 120  
aagaagaagg agtacagcta tccttgtaa acttatgagc aggtttcaac tacttaccag 180  
tgtggtcagt acgagtccca acaagtttac taccaatgcc aaaagtataa ggagggtact 240  
cagcaagaat gccagtacgt ccaagagtcg tattgtgtcg agtatgaaga atgtcagcag 300  
gttaccacag aagtttctcc ttcagaaatt gtctactacg gtgaatcttc gtctagcagt 360  
agttactacg actagaacac ttgtgaaatg cgcaaagtcg caaagtanag tggtcttttt 420  
tgaataaaact gtgacttttt 440

<210> 250

<211> 427

<212> DNA

<213> Cyanidium caldarium



<223> Clone ID: LIB190-005-Q1-E1-E7

<400> 250

gttagtcttt tattggctct tttatgcgta ggttctgctc tggctgctga attggcacct 60  
ggaattgcgg aaaaatcggg agagagagga tatgaggaac cctgctgtac cgaatattgt 120  
tattgggaag aaatatgtat cacaccaca cccacaccta caccaaccta ctattactat 180  
tattacgcaa gaaatgcaaa acaggaaaat gtcgagagaa gcgtagaaaa gagtatctct 240  
tccgcagaaa aatctgatgc ggttcgaggg tatttcccca cgtactacta ttatgagact 300  
cctacatatt attactatta tgagactccg acatattatt actagtatga gactccgaca 360  
tattattact attatgagac tccatcccca accccgacac caacgcctta ttgtacctat 420  
acccaaa 427

<210> 251

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F10

<400> 251

gaaggaggag gatatcaagc gtgacacggg atgttcttgc caagaatgaa atagaaggaa 60  
aaaaaaagtt gtttattatt ctagccaaga agaacaatgg ttattgttgt accagaggctc 120  
aagtcatgat gggagattag gattttgggt ttctttttct tgctgctgaa gtcttctata 180  
cagtgttatt ttgagttttc gacaaggagg acaacgaaga actcccaatt tggtgacaag 240  
taatacgtga cagtcaacgg catagagaga aacactcttg ggtgatttgc tcgagtccac 300  
gataccta atcgttcctc ttccgtcttg agaagtgaga taggtgagat ggtcaccttg 360  
tggatagaac caagtagaag gatacattgc aggattgcat cggatacacg cgacacagct 420  
gga 423

<210> 252

<211> 268

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F11

<400> 252

cccacgcgtc cgcccacgcg tccgcacacg cgtccgccca cgcgtccgct tgttgaataa 60  
gttttgact ctctcgcttg acgggtttct tctcttggtc ttttcttct tctgcataga 120  
agcaactaaa tactttttga agaaaagtct ttttcttctg ttgtttctta aataaaataa 180  
cactttcaac tgaaaaaaaa aaaaaaaaaag aaaaaaaaaa aaacaaaaat agaagaaaaa 240  
aaaaaaataa agagtcaaca acacaaaa 268

<210> 253

<211> 440

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F4

<400> 253

gaaatgccta aactgtttga gataacggaa gatgcctttt tggaaccaa agagccaaca 60  
gctatagaaa aatttcaggc tcggtttgaa gaatttaaag aagttatcac tgaatcagat 120  
acttatcaac gaacttcaga gattgtggaa tctgttgctc attactccaa aagggttttta 180  
cgctttactg gcaatttggc ttggattggg gcaacctcag ctcttggtgt ggtagttcct 240  
ttggtatatg aaattgataa ggagttgggt gcttctggag gcttggaag tgctggttcc 300  
actggggacg ccgccggtag tacgactcag cttctgccca agtaataata gtttttacat 360  
ggagcgaaac gaacaattgg ttatctgccca gttggtttcc aaaatatgtc aatttgtagt 420  
agttttcact gtattgttgt 440

<210> 254

<211> 454

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-G1

<400> 254

cccacgcgtc cggcatgtcg gaggaagagg aagcagattt tcgagggaat tgtgactcgg 60  
ttgctattcc aaagaccacc gtgaacaaag tggcgacaga agtacttgcc aatgccggtg 120  
cgcatctttc gtccgatgcc aaagaactat tgggtgggtt ttgttctgaa ttcgtgcaac 180

ttgttagttc ccacgccaac gaattgtgtg aaaaggaaaa caaaaagggtt atttctcccg 240  
aagacatttt acagtcgttg gaagaactgg ggtttgaga ttattgcaa gaagtgaac 300  
aagtgtatga agaattcttg gaaattgaaa acgtaagtta ggaatataac gtggtggtgg 360  
tggtgcgtcc ttccaagaca agttggacaa aaatgaccga aagaaacgga atgacggaag 420  
aagaactcaa ttgacagcaa gaagaacttt tttg 454

<210> 255  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-005-Q1-E1-G2

<400> 255

cgagacgctt gggcttggca agtctatgta gaccaacatt tgcttgggtc cggaaaggta 60  
aaagacgcag caatagctag tttacaaggg aatatttggg cgcgttctgc gggttttcaa 120  
gcttccacgg aagagttgaa aaagttgatt gcaacctttc atcaaacc aaagaagcagct 180  
caaaacggta tttttttggg gaataagaaa tacttttttt tgcgttcgac agaagatact 240  
atattatggga aactgggtga cgatggcttt gtagctatgc aaaccaatat gtgtctcatc 300  
atancgatat ttaccaaacc cgtatctgcc gccgagtgtg caaacggtgt aagaagaata 360  
gtcgattacc tgaaaagtgc aggttactaa ctttctgtcg catga 405

<210> 256  
<211> 258  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-G9

<400> 256

gtccgcaaca gcgaccgcc acgcgtccgc ccacgcgtcc ggtacgacca ggagtgggaa 60  
tagtatattgg cagtttggtg aatgcatatg caaggaaccc agtattgaag cagcagttat 120  
ttggagtaca cgatattagg gtttgcgtta acagaggcag taggactgtc tgcattgatg 180  
atgagttttt tgatactgtt ttcatagtat aggagaaaca agaagtagaa taaaatact 240

agagacagaa gaggagtt

258

<210> 257  
<211> 333  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H1

<400> 257

ccaacgcgtc cgcccacgcg tccgcccacg cgtccgccc aacgcgtccggg aacaatgcac 60  
ctcatactgc tgggttccag tacagacctg tgaacttat caatgttctc aagagaagaa 120  
gaaggagtac agctatcctt gtcaaaactta tgagcaggtt tcaactactt accagtgtgg 180  
tcagtacgag tcccaacaag ttactacca atgccaaaag tataaggagg ttactcagca 240  
agaatgccag tacgtccaag agtcgtattg tgcgagtat gaagaatgtc agcaagttac 300  
ccaggaagtt tctccttcag aaattgtcta cta 333

<210> 258  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H10

<400> 258

tccgggtcca tcagaagaca ttacatggga gccaaagAAC gtagtaaacc acagagtgcg 60  
tcttctaaag ccggccttca gtttccagtt ggacgtgtaa gtagattctt aaagaatgga 120  
aactatgcag aaagagttgg agctggagca cgcgtgtatt tagctgcagt ttggaatat 180  
atgactgcgg aagtgttgga actggcaggc aatgcagctc gtggtaacaa gaaaaccgct 240  
atagttccac gtcatattca gttggcagtt cgtaacgacg aagaacttaa caagctgttg 300  
ggcgggtgtga ctattgcttc aggtggcggt catcgcaacg tccatcccaa tctgctacca 360  
aagaagaatg caacggaaga catgcactaa agttttcctt gaactggtgt ttttgaaca 419

<210> 259  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-005-Q1-E1-H11

<400> 259

gttaggaaag gcacaatgtc attgacagca ccgttcaagt ttagtccacc tcctgtgcat 60  
gtcaaaagac aacaacaaat gtacaatctg atacttgaat atgcaagaag aaaaggaata 120  
gacagaattg tagagatgaa cggcaaatgg tggatatata ctaggacacc tcccaatcga 180  
aaggcactgc ggtattggta tgacatggac tgcgtggtgt tgaaccagc caaggactta 240  
caaacggcca aagcttatgc gagaagagta aaagaagcag tggagaagag aactacggtc 300  
gaattgcccc aacaagatat ttgtgtacga cgtagcgacg ggaagaaaca cggagtggtc 360  
gctangagaa gagaagatat tgagtttgcc caagatacag cg 402

<210> 260  
<211> 447  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H12

<400> 260

gcgaccatca ggcgacttga tcgttttttg caccagaata acttttgcac ggctgcttcc 60  
gatgtttcca agtctactag ttggttacaa gacggaagtt taccaaagga actgttgact 120  
ttttcagggt tactgagaca ccgtgccaac tgctgctgaa aactcattgg ttacctcac 180  
gcagctgtgt tgggtgccttt ttgtcttggt caaggtcaac ttctcttatt atttacttgg 240  
cgttcgttgt tggtcggaag tcataaaaac caagtgaagt ttccgggcgga gaagttggac 300  
gcgcaagata aaggtgacct tgtacaggcc tcccttcgtg aaacacaaga agaaataggg 360  
atattaccag aaaatgttat tacactaggt ttatttgatg actatcgctc tatcaatggg 420  
tattgcgtta cccctgtaat tggtttt 447

<210> 261  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H2

<400> 261

cccacgcgtc cgcccacgcy tccgcccacg cgtccggagg tgtatgatgc aggcaaagaa 60  
 gtgacgcagt agatcagaga gtaacacatg caagtaggta aagcgaacgg gtgagtaaag 120  
 aggtgtgaaa gagtggaaga acatgaaagc acagaagaat gtaaggcggc gtcataatag 180  
 aaatccgaaa ggagtagaag aaaagagaga gaagaaagaa aagaagagaa aagccgtact 240  
 gaagaccgac acaggtactc gaggagaaga gagaatgctg ggtggagtag cgaaacaaga 300  
 gaagggaagt aaaaggtaag aaagaggaaa ggtttacgag agaaggaggt agaaag 356

<210> 262  
 <211> 293  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H3

<400> 262

acgcgtccgg gaatgagcgt ttgtcgcatc tttgtacgca accttgata tatgtggaag 60  
 atactgcttc cttggcatcc gcttatcatc agttgatatt gcatagtgtg cagcgagtgt 120  
 tggttataca acatgaaaca aagcagttga taggttgggt agatggaaca agcataagga 180  
 aagcatttac tgtgcagcta tgtagatgga ttactcaccg tttggacaac aacaaccaca 240  
 atagcagcaa cagtaaataa aatgtattct aaaaaaaaaa aaacaaaaaa aca 293

<210> 263  
 <211> 183  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H9

<400> 263

aaacaagtca gctggagtta gagcaagaaa gaacttgcaa gaaatcaaaa aacttgetca 60  
 agaactacgc atagagatac aagcgacgaa acaaactgaa aagtgatact ttcaactgtg 120  
 cagaatcaac catggcttgt gaaactattc cagtttttca aataaatacc ttttttcggt 180  
 tgt 183

<210> 264  
 <211> 442

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-A1  
  
 <400> 264  
  
 gtacggtcgg aattccgggg ccaccacgcg tccggcagtg aacgtgaggg tagttcatca 60  
 tgggtgagac aaactcaaga tgggtgttagt gcttctcttt ggactgttcg tctcttcctc 120  
 caaacagtta ttttagcatt ctctgccact atcattggct tggatggacg ttaagcaaac 180  
 aacatatgga acgacagctt attctatgat gggaagtaca ttaacttttg tgcttattct 240  
 gcctcttctg ttgtagaagg aggggaccat ggagcgtgta aatatgtcat ggcgttggcg 300  
 tctataagtt tgattctagt ctttttcttg tggcttttta catttgtaga tgcgttgat 360  
 cctattctta ccaagttttg gtttattgaa ttgggtatca acgtgtttca aacaatgtgg 420  
 tggttggttg gaacaattgt tg 442

<210> 265  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-A11  
  
 <400> 265  
  
 tggttcttcc aggatggcat ttgttagcac aacgtttttg aagaatcgct tgagctcaag 60  
 acatagtctt ttagaatgtt acaagaatcg taatcgatgt tctcctgtc atgtagtagt 120  
 atgggctatg acagcttcca acggaaagga atcatccgcc agaaaatccg gtgcctccga 180  
 taaaccaaca gcaaaatctg attcgtcgtc acaacaggag acaaagaaag aagaagtctc 240  
 caaagcttca caagcaaagg ctgaagtttc aaaatctacc tcgactccag atgctgcaaa 300  
 gacggttaact cagaaacaac caacaactgt ggaaaagcaa actacaaagg agccagttga 360  
 acagaaaaag gctgtttcga ataagccaaa atggtcaaaa gcattgcctt ttatgttgtg 420  
 gccaaaaaat ctcgat 436

<210> 266  
 <211> 325  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-A12

<400> 266

gcacaagaat accaatttta ttgcagcggc tgagatggac aagttgagta atggttcggt 60  
aaactttcaa ggaaaacgtg tcctttgtag agtacacctt aatgttcctt tgggtaaaca 120  
aacaggagca attaccaacg gacaacgtgt gcgagcaact cttcctagca tcagatctat 180  
attaaaaaaaa tgagcacaga gcatcgtact tctttcccaa ttgggtcgac cagaacgaaa 240  
agtggacaaa acatactcct taaaaccctt aacggcatat ttacaacagc cgttgggtcc 300  
aaccggtcgt ctttctggaa gactg 325

<210> 267

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-A3

<400> 267

ggggacacgt cgggaggact gtgagtgatg agtgcagtta gtcaagaaga ggcgcgagaa 60  
ttgttgccaa agttacgagc aaagccggag aacaaatttt gctttgattg caatgcaagg 120  
aacccttactt gggcttctgc ttcctttgga gtgttcattt gtttagattg tgcaggagtt 180  
catagaaaac tgggtactca tgttacattt gtaagggtcca ctattatgga tacttggact 240  
ccacatcatt tacgtcttat gatgttgggt ggtaatgcca aagctcgaga gttttattcc 300  
caaaatggtt ggagtttga tagtgggaaa ggtattgaag agaaatatac aggtcgtatt 360  
ggacagcaat ataaagcgta tctccagaaa caagcagtta tagccgaaga aag 413

<210> 268

<211> 455

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-A9

<400> 268

tcccggcgac gcatcagcga tccggaaaag gtccaaacaa gagaagtcag cagtggggaa 60  
aattgggcaa tgtacaggga agtatgaccc agtaatgagg agtggagtaa acagaaaagg 120



aagtaaaagg aggggaatgaa gggaagttat ggcaaaaaca cgtgccagca gcagcggtaa 180  
aacgtgtgta gcaagcgtag agcagaagaa ctgggtgtaa aggtcgagta gtagagtaag 240  
tgtaaaaggg aaaggaaagg agagaaagag gaaagggatg aaatgcagag atctctagag 300  
aaaggcaaga aagaaaagaa aggaagacac agtaaatgag gcgagaaagc ataggaagtg 360  
aaacggatta ggaacccgtg tagtctatgc agtaaaagaa agaattgagta agaaaaaagg 420  
gagtcattcc accaggggaag ttatggcaaa aacac 455

<210> 269  
<211> 320  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-B1

<400> 269  
gtccgcccac gcatccgcgg acgcgtgggt tttctcgata ctctccgac tttccctgg 60  
cgatatttaa actgtccatt agaaacatta atgtgagaaa atgactttgg aaaattggag 120  
actggaagaa gagattatta atccttacct ctttgagttt gagagttttg atggactgaa 180  
tatcccatgt tggatgtatt tgccaaagtc gagctctaaa aagtttccaa tactcgttca 240  
cattcatggg ggaccggaac agcagtcact tccagttttt actccgttgg ttcagtactt 300  
actgttggag aaaggaatag 320

<210> 270  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-B10

<400> 270  
cccacgcgtc cggggagtgt aagtttggtt tcgcaggttc gcaacatcac gagtttgaaa 60  
gcatgctgcc tagcgggtat agaaactcaa cgaggtatat tgaaccgttg agtaaagaag 120  
aatttaaaat atggcaagca ctggacgatt atcctgaaac atttagagat aatgaaagca 180  
ccattgtgga ccttacgggt cgtgttccaa gaacgatagc ggaactgac gaactgagtc 240  
gcagttttcc taacttcagc tttgaagaat tggtcgcatg gtttactaaa aacgcttttg 300

gagatatgaa gaagaggcac gaagcatatc tcgactcatt gacggaaaaa cagaagaaag 360  
 cgtcttataa catgctctac gagctatttc ttggcagggga aactccagca attacattgt 420  
 ttgatagtgc ctatcga 437

<210> 271  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-B12  
 <400> 271

agagaccaaa agatgggact ggaagagaga gttttcattg ccttgggttc caaccttggg 60  
 gacaagtctg ccagtttatt cggagctctg caaaagctca aggaatttgc caaagtcgtt 120  
 gccacttcat ttctttacaa gacagcacct atgtatgtag aagatcaacc atcattttat 180  
 aacgctgtgt gcgaaattcg gacagaaaag gaacctcttg acctcttaca tcgacttcaa 240  
 gaaatagaga actcgttttg aagagttcga ggaggtgaga gatatggacc tcgatcactc 300  
 gaccttgaca tactgatata tggtaacaga atcataaaca ccgttgaact tgtagttcca 360  
 catccacgaa tagcagaacg tgattttgtg ctttttcctt tgagagacat cgatccgaat 420  
 atgccg 426

<210> 272  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-B5  
 <400> 272

gatgcagatt ggaaaggaaa gaagaaacct cgtacggaca atatcaaata tccacaatga 60  
 agtacatgtg gatttgacct ccttcttctt tagttatttg catagcagaa taagtaattg 120  
 ctttgatttc cgttccctgt ggatgtcgtt gtgtatcgaa tacttctcct tgtccaatgg 180  
 cctccacgag aaacaaacct aatacaagtt aactcgttgc gtttgtggca aggaatgcct 240  
 ggtttaccgt ctagttgaat acgtgttacc tccagttgac atagaatgat ataattggct 300  
 ccatattgaa agaggcactc atctagaaat ttgtaaagga gactgtacaa gtcgtgtcct 360

tgtgcttgaa tatgtatcga accaatttca ggggccggct tgactgtttt caaatctgtc 420  
atataaccga aataagacaa accttggtgc gc 452

<210> 273  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-C1

<400> 273

gacgcgtccg ccaacgcac ngcggacgcg tggggctctc tgccaaagat tgcttttatt 60  
gcatctccca acaatcccga tgggttctgtt gtttcggatg atgacttgag agagttgcc 120  
gacttgccca tgactgtggt attggatgaa gcttattatg aattttcagg aaagacgcac 180  
gtggattggc tgaaagacta cgacaatctc atcattttgc gtaccttttc gaaatgggca 240  
ggtttagcgg gacttcgact tggctatggc attttccctc gtagtataat gagccaagta 300  
tggaagataa aacaacctta taatgtcaat gtagctgctc aattagccgg aatagcgaaa 360  
ttggaagaaa aagattatat gcccacacga gtggaaatga taaagtcgga acgccaacga 420  
ttctatcaac gcatttcgaa atatgaat 448

<210> 274  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-C10

<400> 274

cacacgcgtc cggtcttcc ttatattctt tgtgcttgga caatggttgc aaagactgct 60  
ctgagttgcc tctttctctc tttccttacc gctgccgcag ttgcagccga cgtagtttca 120  
gaggagagat ggggatatgc tcagcaaacc caacaacagc aacagtgcc acaagtatgt 180  
aaacagtatg catactatca gagtccagtc tgcacttccg taaccacaca gagcccatac 240  
tggacccaat gctcgaagac tgtgcaaacc tttgtcccaa gccagtgcag tacttatacc 300  
caatctccta catggaccta ttgcagcacc tacaccacca ctagcgtacc atctcaatgc 360

agcaaggccg tgactactta tactcaaacc tgctgtgctt atgcccaaca aacttcctat 420  
gcagtcagta ccgag 435

<210> 275  
<211> 344  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-C12

<400> 275

ccacgcattc gcagacgcgt gggaagcgac ttggttatca taacacgaga gacgcggatg 60  
ctgaggtaga acgtagtggc cgcgttgcat ctacgtgga acctcggcgt aaagggtccac 120  
gacgttctgt ggagaggtca ttgtgataga tgtcaggcag ctacggcaag aagtatgcgt 180  
ttccgtgtca aaagactatc cagatgtgga actgccacac atctcctccg ttaccacagc 240  
aaggccattc tggcccaagc gccctcagtt tgatacgatt gtgattgaaa atcggggtgt 300  
acatatatc actcacgtag cttctacgat ggctggaccg acag 344

<210> 276  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-C7

<400> 276

ttccggggcc acccagcgt ccgccaacgc gtccggaaca agtgggaatat tacagacagc 60  
atcactggaa gtgtaccaag tgtgactggg ttgtgaaaag agcaatgaat agagcaccta 120  
gtttcaaaga cccttggtgg aatatacatc aacgtagatg tgatggacaa ttttataaag 180  
tcaagcaacc accatcttat aagaaaaggt ctctaggtat gcttcacta gaaacgtatt 240  
tttccaaata aaaggacaaa tggaacttta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300  
aaaaaaaaaa aaaaaaaaaa aagaaaaaaa aaaaaataa aaaaacaaaa aaaaaaaaaa 360  
agaaaaaaa aataaaaact acataaaaat aaaaaaaaaa taatttataa aaaataataa 420  
atgaaaacaa 430

<210> 277

<211> 203  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-D1  
  
 <400> 277  
  
 atcttatcga cctgctcccc tttattgttc ttgatgaagt anacgcggct ttggatcgcg 60  
 ataatctcga aaaggttgca agatatattt taciaaaggtc aaaaatgagt tgcgagcaat 120  
 atatcgttat ttcattgaag gataagtttt atgaaatggc agatgctctg attggaatat 180  
 atcgagatat ggacaagtcg tgt 203

<210> 278  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-D12  
  
 <400> 278  
  
 cagacgcgtg ggcggacgcg tgggttttga aattggtttg ctgcgtcggg gaagcgcacg 60  
 gaaatatttt ctagtcatgc aaatatttgt gaaaacgttg acaggaaaga ccataacgtt 120  
 agaggtcgaa ccttcggata ctatagaaaa tgtgaaatca aagattcaag ataaagaagg 180  
 tataccccct gatcaacaaa ggcttatatt tgctgggaag caactcgaag acggaagaac 240  
 tctgtcggac tataatattc aaaaggaatc cacgttgac ttggtattga ggttaagggg 300  
 aggtattata gaaccaactt tggcagcatt ggcgagaaag tacaactgtg acagaatgat 360  
 atgtcgcaag tgttatgcca gattgccagc aagagctcaa aactgtcgta agaagaaatg 420

<210> 279  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-D3  
  
 <400> 279  
  
 ggtccgtagt tcacgggtgg cacgacgcgt ccgttgagac gacaacaaca attggttggtg 60

ttgtttgggc tttttgtttt ggggtttgtt tgggtgaaga tggcgacta tcaacattac 120  
 cgagctagta cagcgggtat agctttggga gaagcacttt ctgaactcaa ggaacagaac 180  
 ctctttacgg aagcggaaga agatgtgatt tggaggaagt ttgaccgtgc catgacagaa 240  
 gcccttgctt ccaacgttgt ggatacacac cttacgttga aaggagagtct tcatcactat 300  
 cgattctgtg ataacgtgtg gcaattcttc gtgaaagacg cacaagtga atttgacaaa 360  
 aggtcggatt ttactccgcg tggttatctg aaagtanttg cttgtgatta tgtaaagcca 420  
 accaacccaa agtctagtta attttgaagc ccaat 455

<210> 280  
 <211> 344  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-D4  
 <400> 280

acgcgtccgc acaaaaagta ctgtttatct actagacaga agctgatata gctgctgtcg 60  
 tacacaaaca acacaagcaa acagttggaa gccgactgtg aaaccaaccc acatttccag 120  
 actcccaaca gaactgcttc tcagttagtt acgcaatatg cctagtcata aggaacaaaa 180  
 taaaggaatt aaaatatcag ctgacgggta cgactaaag ttgagcggta ttcggttga 240  
 cgtagacggc aatttgggtc ctatgggtga cgagacgac ctcatagccc tcatgtttaa 300  
 agaaagcctc aaagaaaagt caaagctgca tgaccacaaa tttt 344

<210> 281  
 <211> 55  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-E1  
 <400> 281

acgcgtccgc aatgcgccac atcaaaaaat aaaaaaaaaa aaaaaaaat gggcg 55

<210> 282  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-E10

<400> 282

tggttcaagc atatcgtcaa gaagcagaga actggcggtta cgggaatcca tatcaacaaa 60  
cgcttcattt ggataagatt gaaacgacag acaaagttcg aatgtgtcgc cactgtgcac 120  
gacaacaacg aatttccgca aatgctacgg aaatagctct ctttgctatt caaagagcac 180  
taacgccatg tttagctgga ctttgggtatc atcaacgcga agctacgtga aaagaattcc 240  
catgacaaca tcatcattta tcatataata ccaacgtatc gactgtatct ggtaagaata 300  
gtaattcttc cccttttttc ttccacaaat gtatgtatat ctattcgacc acatctatgc 360  
ccagttagta agcttcatat cagcttaact aatcttttca atcataaaca ggttctacat 420  
cc 422

<210> 283

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-E11

<400> 283

gattcatttg gcagacgctg ttccttggaa tgaggacttt acttgttttt ggaaaggctc 60  
tattcaattt gcgaaatatt tcaagcttct ttttggttcc acacttgttt atgggtattgt 120  
aggaaagagt gcgagtcctg atttaccgga attggaaaaa catcgtctag gaggtattgg 180  
ctcgttacgt ggatattcta cgggtgctct aggtactgct acttgttcct tacaacaaag 240  
tgtggaactt cgttttccat tatttccacg agttgctgga gtttgttttt atgattgttt 300  
ggataaaacg gagtgttggt ggagaaatcc aacgcgttta ggtgta 346

<210> 284

<211> 428

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-E12

<400> 284

gcagactgac tagctactgg aaaaaacctg ttgaagaccg cctttgctcg ctctcactga 60

caaacactcg taatatgtgg tgcttctatg ttcctacttc aattttatat acacaaacta 120  
 tgattaccaa ggaaattgta catcttaaga acgatacaaa ggtctttgag ttcttttgtg 180  
 gagtctcgta cgggtggacgc aaagctatca cagttcaaca gagtctcgta aaccaacaac 240  
 tctagtccat ctagagactt tcagagaaat tatgagaaaa gtatttcacg gaatagaagt 300  
 tgtgagattt tggactgtgc agtttgcaat catccaacaa gcaccagcct actagtttgt 360  
 cgtgcttgta gcaccaaaaa gttcctgggt gtagttacat attcacgtga agaaagagag 420  
 aaagcaca 428

<210> 285  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-E2  
 <400> 285

cggtcgagat tcacgggtgc ccgcacgcgt ccgcaaagtt tggttgtttt cttggtagca 60  
 gttgtacatt caacatcatc aaatgccaaa gggaggaaaag aaagattctt caaagaaaga 120  
 agccacaagt aaacctgcag cagcagatgc tacaagacg acagaaaagt ctggtccgga 180  
 agccaagttg aagggaactg gtgcaaagaa acaataaaaa gttgactatg catgtgtaag 240  
 tatttgtgga ttttccagta gaacaagcta aagttgtttc tgaaggcagt cctgttatgt 300  
 tttgtgagtt ctgtttgata gtttccagct attcttttgg tagtgaataa agagaaaatt 360  
 ttttaatat 370

<210> 286  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-E5  
 <400> 286

gtaccctatg tggccctttt tctatttggc gtctcttgga actcgtaata acacttttct 60  
 ttctttggcg cctttagggg aagttatgtc gggattcata gtacgggttt taaggacttc 120  
 ttgttaaagc cagagcttct gcgagccatt caggtgcgtc aaccacgta tagaaaggta 180



acttgcttga cttggacacg ttggacagga ctgtgggttt gagcaccctt cggaagtcca 240  
 agaacagtgc attccacaag caatactagg cggtgatatt gtatgtcagg caaaaagtgg 300  
 tatggggaag acagcagtgt ttgcccttgc tgtacttcac cagttggtac ccgaagacgg 360  
 aaaagttagt tgtgttggtc taggtcatatc cagagaactt gcatatcaaa tagctcatga 420  
 atttgaacga ttctcaaag 439

<210> 287  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-F1  
 <400> 287

gcgtccggta attagagatg aaattatgga gaagttcagt ccagacatgc acacggaaac 60  
 tcctcaattt ggaggggttg ccaatttggg tcgttctttt gcaaaaatcc atgaaaacaa 120  
 cctcaagaac aggggttctt cctctgacat ttcggatccg gcggattatg atcgtattag 180  
 cccagatgac cgcatttcta ttttgggatt gaaggacttg aaacctggaa agccccttac 240  
 cgttcgcgtg aagaaacaaa atggtgagac ctttgatatc caagtgaacc attcatttag 300  
 tgaagaacag ttcgaatggg tcaaacatgg ttccgcgttg aacaaaatta aggaggactt 360  
 gaaagcaggt cgcagacaaa tgtacatgaa gtgtgcggac cct 403

<210> 288  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-F10  
 <400> 288

cattttacaa gccaaaggcgt ctcttctctgc ttgcaaacaa ccacgtttgg aaccaaagcg 60  
 agcacttggg aacaaagtat tgcaacaaaa agtaaaccac tatttgcaca aataataacc 120  
 aaagatggac ttgttggcgt ctacggaaat tagggaagga aatagaggtg gcagagacca 180  
 gtttagttgg gagaaagtaa aggaagataa atatagagaa aactatttgg gacactctat 240  
 tcatgcacca gttggtttat ctgccaagag aaaagaccg cagtggttta ccaagcctcc 300

agccccccac cctgtgagta accgcgagga acttgaaaaa atacaacaac aagaagctat 360  
 tatgctgaga gctagtcttc aaggatatacc tgttcaggat gccattgcat tggcactcca 420  
 acanaccacc caagagagc 439

<210> 289  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-F11  
 <400> 289

cccacgcgtc cgggtgcgtcg acgtcgatt ttagtagta ttgtggtgct ctttccaacc 60  
 ggtttctcca acgacgcaac acaaaaatgc ctctggtgcc aagaaaacat atgaaacgtt 120  
 tggcagcacc caaacattgg atgctcagca aacttgggtgg tatttgggca cctagaccta 180  
 gcagtggacc gcacaagttg cgagagtcac tacctctctt attggttctc cgcaatcgac 240  
 tgaaatatgc gctcaataat agagaagcag tggctatatt gatgcagcgt ttggtaaaag 300  
 tggatggaaa agtacgcacc gataaaactt ttccagcagg tttcatgggt aagcaaagca 360  
 tcggtcgaaa tcgaatgtaa agtgattgac tatggaacct agatgtgatt gaattggaaa 420  
 cgaacaatga aacttt 436

<210> 290  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-F12  
 <400> 290

gatttattgg agcctctttt ttgggtgcc aagaagaaga agaaaaagaa gaggaggatg 60  
 tcgactttgt ggggaaaacc caagtctaga aacgtacaaa tagaacattg gttacattct 120  
 ttggaagaag ttgaacaagt agccaggtca gtggaaccaa aattggtttc aactacagcc 180  
 aaatggaaag gaattgccca aaactgcaaa gaaatagcta ccgacctttg tcaaatattc 240  
 aacaagaatg acccccatta tgaggttcta ttggcatctt atacaagttc gaggaagttt 300  
 gaagacgaac aacatcaagt gaccaagacc aacgaactta gggatagagc agtcgagagg 360

ttgcgccatt atttatcgga aattcagcaa ctgaaagcac agtgtgtcga agaacaaaag 420  
 ttgcgttccc gactagagca 440

<210> 291  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-F5

<400> 291

ccacgcgtcc gacaagttat aataatgaag tttccagtca ctttacggag aagcagaact 60  
 gggtaatgaa tacaggagtc tattatgaga ggcgttttga aaagaaggga ccttcacctg 120  
 gtgcttggca agacgcgagt agttccaatt ctcataaaga aggtctctgt attggcccaa 180  
 actgtcaact tgtagtttgc tctgttgata acctgaaaga cttcttgggt cagcaagttt 240  
 atgaacaact ccagaaagta tactcggata atgaaagcgt tttgatgaag ttggatcctc 300  
 tcgcgaagtt gttgggaaga aaccttggac aattatggag gggcgatgtt cctatggagc 360  
 ccgaaccttc ccagatggat attgtttcca ccagaactga tacagacgag 410

<210> 292  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-G10

<400> 292

acaacttggt cttagggcaa cttgtcgggg ttttgttttg gcgccatggt ggtatgcaaa 60  
 tactttcttc gaggtaactg caaatattggt cgcaattgta agaacgaaca ccctatgcag 120  
 aatgctgctt ccaacagttt tgggtgctttt caaaaagagt ggaaggatcc ttttcattcc 180  
 ggagcgggac agtcttcttc agttttcaat agttttggaa accgcagtgg gaaaccaacg 240  
 agtcaagatc cttttcgttc gttcaagtct tctgggaatg gcttttatcg taaccagcga 300  
 aacaacgttg ctatggatat cgcttcgtcc aacgacgatg cacgaggtcg tggtagagtt 360  
 gcttatcatc ggggaagagg aagagcanat tatcaagaca gtcgttttca ttcaagtga 420

cctaatac

427

<210> 293  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-G12

<400> 293

cggacgcgtg ggcggacgcg tgggattgca gaccagcgcac tccaacattt ttgcagttgg 60  
cgatgttgcc acatttcctt tgaaaatgta tgagaatcgt ctcgagagag tggaaacatgt 120  
tggcaatgcg agacaaatgg ctatgcatgc agtggatggt attttttggt ctcaaaaagc 180  
ttacgactat ttgccatttt tctattcgag agtgtttgat aagagttgga agttttatgg 240  
agataatccc aaagatgcca cttgtttggt atttggagaa atgaatccca agttatttgc 300  
ggtttggata aagcctaata atcaagtggg tggaaacctt actgaaagtg caactcctga 360  
ggaagaaaag aaaatcgaac gaattgccag agaacgtcct gttgtggacg tggaaaa 417

<210> 294  
<211> 461  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-G2

<400> 294

cgcgtccgaa cgtatatcat ttcacattct cttgttagaa aactatgaag tctttcggca 60  
ttgctattgt tttcataagc tttgttattg catcttatgc agcagttgta tccgaaatgg 120  
catccaatga gtttcaaaga ggaggatacg ctcttctctc ttccaaggaa tgctgcatga 180  
ccacttgtea atatgcagaa ctttgcccaa tttctcaacc aacttatagc caagctccat 240  
cttacattcc atctcctacc tatggccaag ctcttccta caatcaatat tcttcttcgt 300  
acggttcctc tagctatcgt ctcttaactg cagacgaaaa ccaacttggt agcagaggag 360  
gttatgcacc aacaagccaa tgtattctag ttctatcca atgctgcact gattgcaaac 420  
aatgctatgc ggcattggagt ttccaaaata ctgatacaat g 461

<210> 295

<211> 459  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-G6

<400> 295

ccacgcgtcc gcagctgtat cgcggacata gaatggcaac agataaaacg attcgttgca 60  
gcagccagtg gattcatctt gtagcaccaa gtggctgttt attgcaaccc cactgttgga 120  
agttgcttgt actgatgggc agcgaattga aatgattcct ttgaagaaag atataaagga 180  
attgtttttc tctactttaa agaagaactt tgagtcgaac gaagcgtcat gggagtgcag 240  
tgtagttgaa accgcagttg ctgtttttat ccagtattat gaacagtgtg tggaacagta 300  
ctatctagca agcaaagatt atgagctacc tggttattcc aaagtaaaac agattcggag 360  
tatgattgaa gatgttctac aaatagagaa ggaacttgga aatatgcgtc agactcttgt 420  
tggcggtcgg agtcgtcttt gtactttcga agctgcac 459

<210> 296  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-G7

<400> 296

ccacgcgtca ggaggaactt gccacaaccg gacctattct tgttgctgct tgtggaaatc 60  
ctgtagtaga aactggagct gcagttatct atttctcga tgttgccacg gcttcccttg 120  
ttggtcagga acgtgtcgtc ttcaatatga gttgttcagt ttggggaatc agtgtttgtg 180  
agagaaatgg actaatagct ttgagttcca acgatcactg cattagtatg attcgtatat 240  
gtttagagaa cgagtggggg tctcaaaata gattctttat tgttccttct gctttagag 300  
gtcaccaaca taatattcca agtattgact tttcaaccaa tggaagattt attgcctctg 360  
ttagtatcga tgaaacatta cgagtttggg atctctcgac gggatcaatct attggatttt 420  
ctgaagggtt t 431

<210> 297  
<211> 180  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-H1  
 <400> 297  
 ggtcggtaat acggggccac cacgcgtccg gtatgggatt gcggtgcttt cttctctcca 60  
 aatgcctatt aacaatctta acaaaagtgc catgttaaga aaagcaaact ttgcttacia 120  
 atatatggga agattctcca ataagttcaa cctcctaaag aactttatct ttggaaaaat 180

<210> 298  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-H10

<400> 298  
 cggggccacc cacgcgtccg caggaccttg tccgttgat gacatcggtg taccacgctc 60  
 tgctgctcca tcaccgcagt cggtgttcc ttcatcttcg gaacctagtt tcgggcctcc 120  
 ttctggacct agttttccaa cttttgatgg tgagccctca gctccatcat cattttctcc 180  
 cttcggaagc agcagtggac ctgaattttt cccgatttaa atagtacaga accaagttta 240  
 gggaagtgtg caactccaaa ggggggttgg tagt 274

<210> 299  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-H11

<400> 299  
 gataatgact gtgttggaag ggagagaata ggacatattt caaagaatac agaatatcgc 60  
 tccattcatt tcatttcatt gttagtggtt atcctgcaaa aatatttgga ctacattgca 120  
 aaggaaaact ggaaagaggt tatgatgcag atatagtcgt ttggagtcct gaaatgattc 180  
 aaccttttcc aagtcctatt tgtcaaaagt ttcagcctct ttgccacaa atgaacagca 240  
 ctttgaaagg agtagttttc gatacttttg ttcggggctg aagagaaaat ggaaaagtcg 300  
 tccttgatgg aagaagcaag cacacaatgg gaacaagatg gaaaggaaca ataggaaact 360

agttcgaaag cacgaaaaca gaaacaacgt tgcgaaagac taaagaat 408

<210> 300  
<211> 212  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-H12

<400> 300

cccggatcca tccacgcgtc ctgatagacg gcaggactag tatgggatat cctcctacct 60  
agatgggtatt taatcccgag gcaacacagc catatagcaa agtgaataag catgtcatgt 120  
aatgactgta tgagaccaac tagtcaggac ttttactacc gactctgaag aaacgcttga 180  
cttgcttcat cagtttatgt cattcgaccc tt 212

<210> 301  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-H3

<400> 301

cggtcgtag attcacgggt gccccacgc gtccgacaag ttataataat gaagtttcca 60  
gtcactttac ggagaagcag aactgggtaa tgaatacagg agtctattat gagaggcggt 120  
ttgaaaagaa gggaccttca cctgggtgctt ggcaagacgc gagtagttcc aattctcata 180  
aagaaggctct ctgtattggc ccaaactgtc aacttgtagt ttgctctggt gataacctga 240  
aagacttctt gggtcagcaa gtttatgaac aactccagaa agtataactcg gataatgaaa 300  
gcgttttgat gaagttggat cctctcgca agttgttggg aagaaacctt ggacaattat 360  
ggangggcga tgttcctatg gagcccgaac cttcccagat ggatattggt tcaccagaac 420  
tgatacaga 429

<210> 302  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-H4

<400> 302

cccacgcgtc cgcaaaagac tcaagtaatt gtatatattgt ttttggttgt gttgctgtag 60

ggcaaatatg agttcctttg atccggacaa gttcaaacia gaacaaaaag ctgctggaa 120

tcaaggagct ttatccacgt ggaccctgtg gaaaaaaact caagtagaag atactccagc 180

aaagttcttc ctaggcctag tacctattcg accaggagtg aaaatccttag accttgccctg 240

tggtagtggg gaaacctccc ttcaagttgc tcacctagtt tccagccact taaaggatga 300

agccaaagac gcaaagatag tttgcgttga tatttcggac gaaatgctta aagttctcaa 360

ccaaagagca caggaaatgg ggctagcaaa tatggtggaa acccgctg 408

<210> 303

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-006-Q1-E1-H5

<400> 303

cacgcgtacg caaggtccga gcaattagtt ctgcggtaga taaattggac aaagaatctt 60

ggagtcacgt tcgatcagag atgatagaaa tgaaaggatt gtaagcttct aaagcagata 120

agattgggga atacgttctt cgtcgagata atcctcaaag gatgctttca tctttatatg 180

cggacgtcga tctttctgca atggcacgtt cctcttttga agacatggaa ctcttattga 240

aatatttagg agacttgggg atagaagata gtcgtcttat ctttgacctc tcattagctc 300

gaggattgga ttactataca ggtttaatat ttgaggcaat tttaactanc gatgaaggca 360

catctttagg ctctataggt gctggaggtc gntatgata 399

<210> 304

<211> 357

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-H7

<400> 304

ggaccgtcca caagaccac aaaaagtatg agtcgattca caaaaccgct tcaaaatatt 60



tctttaccgc aacgtgtaca gcaattttta gagccttctg tttggttgga gttttcacca 120  
ctatcaccct tgtgtgacgc tatcaacttg ggtcaaggct ttcctgattg gaagccaccc 180  
aagtttgtaa cggaagctgc atcgaaagct acgagcgacc caagttggag tcagtatgca 240  
cgttcgagtg gtttaccgtc tttggtatcg actattagta aaacttatgc gcctctgttg 300  
caaagggaca ttgacccttt taaagaagtt tgtgtgactg tgggagcatc ggaagct 357

<210> 305  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-A1  
<400> 305

ggcaaaggca gtgagaattg gtgctgaagg ttacaggtta aagttggacg gtgcagttca 60  
agagatagac ggtcgttctg tagttctggt agatgtggat agtattaccc ctctcatggt 120  
tggaggtagt atgaaagaaa aggccaaatt gttggatgcc aagtttctaa ggaagtatta 180  
tgaggagaac aaggacttct tcttcttgtc gactagagaa gagaagaaaa tgtttgtgac 240  
gttgcaactt gccagggaat atgcagagct ggtagatgac caattcttga agggcttctt 300  
cgagaaggct ctggagtccg ctccagaagac gttttaattt gtcaagtana gtgtagtggt 360  
cgtttttctg tgtgtatttg tctctgtgtg tgtgtgtctg tgtg 404

<210> 306  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-007-Q1-E1-A10  
<400> 306

agatgatcat tagtggaatg ggagaactac atctacaagt ttatttgga cgaatgaggc 60  
gagaatatgg agtagaatgc gaagctggac aacctcaggt caattttcgt gaaacagtaa 120  
cgaggcgtag aaatttcgac tacttgcata aaaagcaaac tggagggtgca gggcagtatg 180  
gtgggtgtcat tggatacatt gaaccctccg aagatccttt gcacaacgaa tttgtcaatc 240  
gtgtagttgg caatgctatt cctcctaacc ttattccagc tgtagaagca agtttccggg 300

aagcttgcga gaggggctcc ctgacaggtc accgagtaca aggcgttcgc atggtattgg 360  
aagatggaaa a 371

<210> 307  
<211> 309  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-007-Q1-E1-A11  
<400> 307

tcgaccggtt ttcttggttag cagttgtaca ttcaacatca tcaaagcca aatggaggaa 60  
agaaagattc ttcatagaaa gaagccacaa gtaaacctgc agcagcagat gctacagaga 120  
cgacagaaaa gtctgggtccg gaagccaagt tgaacggaac tgggtgcaaag aaacaataaa 180  
aagttgacta tgcattgttcc tgttaagttt tgtgagttct gtttgatagt ttccagctat 240  
tcttttggtg gtgaataaag agaaaatttt ttataaacia aatccaactg taaaaaacia 300  
agtttccgg 309

<210> 308  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-007-Q1-E1-A12  
<400> 308

tgcgtcacgg gcggaaatcc gggacgagcc cagcgtccg caacgattcg gtgtcgctgc 60  
tgaacacgtt tatgacgtag acgagaatac caagttgcgt ttggtggga aagttcgtca 120  
cggagaatcg gaccggcag gatattgat tgcccaatat gactttacgg tttccacaga 180  
agattttccg ataaacgttc gtgcacgtgc gatattgaaa agtaaccagt gcatcggcga 240  
tattcgtgcc aaaaagaagt ttgaagtga cgaagacact tctttattct tcttagccaa 300  
agcttgtact caggaactaa caaaaggaag ttatattatt ggtaaagctg gattgacacg 360  
tgactttcgt ttgggtgaaa acacttttcg gttgggtgcg gtgtgtgacc aagatggaaa 420  
ctgt 424

<210> 309  
 <211> 359  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-007-Q1-E1-A3  
  
 <400> 309  
  
 tcataacgta aacgatgtgg ggtaagagat gaaagaccac tgcattgagga taaggaatct 60  
 aactgagtaa ggaaaataag aacattgagga aaaaagaagc aaatacggga aagcaattaa 120  
 agaaaaaaga aaaaggaaaa aactgagtat caggaagaaa agagggagta gatgaggaaa 180  
 gaaagatcaa ggaagtaaga gtaagagaag gagtaattgt aatgaaagca ggaaagtatt 240  
 tgaagaagag agtgtaaagc gcgtaccttt tgcataatgt cccagcgagt gaaagaggaa 300  
 gcaaaaagaa agaaaaagaa gtagccaggt aagaccgaa gctagttgat cttatgctg 359

<210> 310  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-007-Q1-E1-A5  
  
 <400> 310  
  
 agcgtccgaa cgagaacaat ctccattca tcttgtaga gacttggttc ttccaggatg 60  
 gcatttgtaa gcacaacgtt tttgaagaat cgcttgagct caagacatag tcctttaaaa 120  
 tggtaacaaga atcctaattc aagttcctcc tggaatggaa tagtaagggc taataaaact 180  
 tccaacggga agaatcaac cggcaaaaaa tccggtggct ccgaaaaaac aacaagcaaa 240  
 tctgattccg cgtcacaaca aggagacaag aaagaaaaaa tttccaaaag ctcaaaagca 300  
 aaagctgaag tttcaaaatc cgctcgact ccagatgctg cgaagacggt aactcagaaa 360  
 cagccaacaa ctgtggaaag gcaaactaca aa 392

<210> 311  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-007-Q1-E1-A6  
  
 <400> 311

gagacggaaa gagccatgcc tctgaagaaa aaaggtggca accaccaacg caaagaagaa 60  
 atagctcaca atagactaga atatttatgg caaatatctt tgagttatgc gacgacgatg 120  
 ccaagtattt cccgtttcta tgtgtccatc atgtgggaga tgggaaaacg actcaattat 180  
 cggttggata atgttaccgt gaaaagctgt ttttgtaaaa agtgctatac cgtctggata 240  
 ccaggaaaga ccgtacaaat acgtcaaaca aagaatagca agagaaaacg ggtcatttac 300  
 acttgctctgt attgtaagag acaaaagaga tatggcacgg ctcaccgtcg ctaatccttt 360  
 ttacaaagct ccacctttcc acaacatgtc gatggaacga ccgagggcaa ccataaaagc 420  
 atcaatctct tcct 434

<210> 312  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-A7  
 <400> 312

ttctatatcg ccatcgtaag agtaaagtag ttgcgaataa tcatgaggaa caacgaggct 60  
 tgctcgataa ggattccacc gataactacc tttcagtcgt cgatgacgag tcggaggaat 120  
 ctttcgattt tgggtgaagta atgatacatc aacttataca tactatcgag tttgtattgg 180  
 gagcagttag taacacggca agttatcttc gtttatgggc gcttagtttg gcgcattctg 240  
 agttgagctt ggtcttttta gaaaagggtt tgtataatac gattttattta caacatccga 300  
 tagccattat gatcggtttc ttactttggg catttttgac tgtaggcgtg ttgtgtctta 360  
 tggagtcctt ttctgccttt ttacatgcct tgcgtttgca ctggg 405

<210> 313  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-A8  
 <400> 313

gtcaaagaag gaggagagca aagcaacgaa gaaaactcaa aataaaccta ccccaaaaac 60  
 gaccagcacc tcaaaagtag agaagaagat cactaaaaag aattcaggat tgtcaaacaa 120

ggagaaagct ggaaagacag ctgctaacac taagtccaaa gccagtcaga aggcggcagg 180  
 ttctaaaagc aaaggtgcag taacagtaaa ttctcaaagg agaactacac gggttacacg 240  
 taaagcataa tctcgctagt aatttagtat ttacttttg gatgttggtg tatttgtgtg 300  
 aatacaaaag tgttgaaatt ggaatttatc ccatagatgt gctatcaatt gttgaataaa 360  
 agtttttgta ctct 374

<210> 314  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-A9  
 <400> 314

tttggcccaa gatctgaacg agctcatctt ttggttcac agacatgtcc aacgaaaatc 60  
 agtccgataa aaacactttg gaaaaaacg gggagaagct gcagaatgca gttcactactg 120  
 gaacagagaa agtttctcaa gtgttgagcg acgtcaagga aactgtgacg gagaaataca 180  
 agaatggac agcaccaaaa agtagccaag aagaagcaaa agaaaaagca caagaagcga 240  
 aagaagaggc taataaagct tttaatgcta tgaaagaaag tgcgagtgcc gcttcagagg 300  
 ctgcatcaga gaaagcagaa aaaattaagc aggagttgaa ggagtgaaga tacacagtag 360  
 ttttctccta tagtgttctt agtagtattt gtagtgatat ttgtctcgtg atgaataaaa 420  
 cacggttatt agt 433

<210> 315  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-B1  
 <400> 315

ctccgacgag tcgtatgcc acgcgtccgc tttgtgggaa gattggtgga ttcatactcc 60  
 tccgtaacc agagcttatg tcaactttaac ctccaaagtt acaataatat gtgcactaaa 120  
 agtaatcccc taagaaacta tattataatt gggaaggagt caaaaagttg caattgtgga 180  
 gaatatttac caactttttc taatttggac cttttggaat ggacttttta ttccacatgt 240

tctttctata tcgttattgc aagctattag aactgaatac ttttcgagga cgttcggcag 300  
actttgtatt tatgttgctc atcgggtggaa tattgttaat tatgctttcc tttttcaacc 360  
cctacatcaa g 371

<210> 316  
<211> 459  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-B11

<400> 316

ggttggtggt tgggaagggtc ttctttgtat aatataagac aggaagcatg ggaaaggata 60  
aacaacacgt ttccatcggt gtcattggcc acgtcgactc tggcaagtcc acaactacgg 120  
gccatcttat ctacaagtgt ggaggtatcg acaagagagc cattgagaag ttcgagaagg 180  
aagctgcgga aatgggcaaa ggttctttca agtatgcatg ggttttggac aaactcaaag 240  
cagagaggga acgcggaatt accattgata ttgccctgtg gaagttcgag actgagaaat 300  
atttctttac tatcatcgac gccccggcc atcgtgactt tattaagaat atgattacgg 360  
gtacctctca agctgacttg ggtattctag tcgttgcttc tctccaggt gaatttgaag 420  
ctggtatttc ccagaacgga cagacaagag aacatgcac 459

<210> 317  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-B12

<400> 317

ccaaaaaggg ttggaacgac ggattcaacg aattgtacga gttattcgag cattgacacc 60  
ttcagtcggt cattcagaca gtctgttga gattcaagtg gagatttggc agtagatggg 120  
actattgtgt gaagaatcgt gtaaagttcc cgttgcagtt gcttttagcag tgatttacga 180  
agtagatttg gatgaagatg aggttgtatt ggagttggaa tactctggat acaaaggagt 240  
gggaagaagg gttgcaagga acattgcac aatgttggtt gaatggttgg ataatgggga 300  
atcaaatagt gattcatcag cctgattgtg atgttaagtg agtgcttgtg tcattgcacg 360

aaaccaatc cctgatttcc tcaccggatt ccgcaccgaa acaacaaaat gaaattaaaa 420  
aaagggggg 429

<210> 318  
<211> 161  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-B5

<400> 318

caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaagga aggcgcgaca aaaggggtga agacttattt cgtcgtgctt gcgactgtca 120  
tttctcttct tgggtgtccc ctttgtttct tttcttcggg g 161

<210> 319  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-B6

<400> 319

agtatgtcca gatacaagag tgttttctgt tttcacata aatacaagga acacgaaact 60  
tatttctatc gggataccat ggggaccacg ttgtcctgtt ctttgggtgt tcttcaagca 120  
cctatatggg acaagcgta gtgattagga aaacactata gtttgtacta tttacttgac 180  
cgatgggtatc tttggttaact ttccagtcac ctgcaaagag ataagcttgt aaatacaacg 240  
aggatagaaa caaacaata acttgtcctc cacntagaag atatacaact ccaagtagaa 300  
cgagtgcacac ttgtacattc tatttggatg ggaactgaaa ttgttgcaca cttgcgcaag 360  
agataggtaa acagtatata atanatacca ctac 394

<210> 320  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-B7

<400> 320

acaaaatgtt atttaaagga cggcaagact tggctctatcg aataccagaa ctccaactac 60

aacattgaag tggaagtgc agacaagaag caatcggtat atatatatcg ttgtaatgac 120

accgtagtaa aggtaactgg aaagtgcac tctatcacca ttgatagttg caacaaatgt 180

ggagttgtat tcgaaagctc tttgagtact tgcacagtgg tgaattgtcg ttcagttcag 240

ctccaggtgg agaaacaagc tccgagtgtg acgattgata aaaccgacgg cgcaaataac 300

tttataccat caagtattgt ttcggaaaca caagttgtta cagcaaagtc ttcattccgtt 360

aatgtaactg tcacgaatga tgaagaagat cctgttgaat ttcctttgcc tga 413

<210> 321

<211> 467

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-B9

<400> 321

gggacggccc acgcgtccgc ggacacgtgg ggttctagat cgcttgctgc caaaatggga 60

tccccggcgt tcaaaatcga aaacaattcc tgaagcatta gactacagtg agaatcaaat 120

atcggataat aactgggaag aatattgaaa gctggaattt tctgctgatt actacggttg 180

ggtcgactgg agggattgat gactttttta aaattcgacg atctgctggt gattggatgc 240

aaacgcttcc aaaatgggag tcaaacccca tctatcggtt acgtccaacg atgcaccgta 300

agaaacgaac aattgtacca attccatata accttcggct gctgcgatat gaagaggagt 360

tcgctggtct tcgtccttca aacagacgag tgctggattt ctctgtaaata aataaccaac 420

ttgttgctg tttcctgaat aaatactgtc caaaataatt gctcatc 467

<210> 322

<211> 403

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-007-Q1-E1-C1

<400> 322

cggacgcgta ggtgggtgtg ggaaacaaca gctttgttgg tgtaactggt tgccaatggg 60



tttccaanaa gaaagaaaca anaaacttgg gcaaaccaac ggtttcaacg tttggaagca 120  
 acgtttggac tcaaagccaa gtccaaataa agaagatctt ggaggccatc aaagacttgg 180  
 ttaacgatgc aaactttgac tgttcggctg aaggttttatc tttgcaggca atggactcat 240  
 ctcatgtctc cttggtttcg atggttcttc acgctcaagg gttcgaaatg ttccgctgtc 300  
 aacgagctgt ttctctgggt atcaatctgg cgtcgttaac caaaatatta aagtgtgcag 360  
 gaatgatgac agtataacgc taagagcaga cgacaaggga gat 403

<210> 323  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-C10

<400> 323  
 cgggtgcggat attccgggac ggccacgcg tccgaaacac aagacaacaa tgtctcgtec 60  
 caagtgtttc tttgatattg ctatcgggtg acaacctgca ggaaggattg tattcgagtt 120  
 gttctccgat gtcgttccta aaaccgcgga aaatttccgt gccctgtgta ccggtgagaa 180  
 agggtttggg tacaaagact ccaagtttca taggatcatt cccagttca tgtgccaagg 240  
 tggagacttt acacgcggcg atggaaccgg tggcaagagt atttacggca ccaagtttga 300  
 ggatgaaaac ttcaagttga agcattcggga gcccttttta ttgtccatgg ccaatgcggg 360  
 accgaatacc aacggaagtc agtttttcat tacggtagtg aa 402

<210> 324  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-007-Q1-E1-C12

<400> 324  
 cccacacgtc cggtttcgtc agtttctttg ggagaacatc ggacagatta ttcgtcctga 60  
 ggagtgtgaa attttatcct atattcccga ataacaattt gaaccaaaaa atttcttgcg 120  
 ggctctgtgg gtctttttgt acttttttta tcanaaaaaa tatganaaaa gattctgttg 180

tttgcgtgta cgctgtccac ccgctcttgcg gacgattcgg agagcgtcaa cagtatggat 240  
gaagaagact ttggcaaaga aagttccgga ttggaagctc cttttgctat gtttgagaca 300  
gtcatctaaa ttgtttatgg tgacttgat atagtagttt gtgagttatc gtaacaca 358

<210> 325  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-C2

<400> 325

cacacgcgtc agncacgcgt ccgctaaact ggttggtggg agaaatcgcc aactttggtg 60  
ccaagtacga acgattcctt ggataacaac ttgttggttg acttgggtta aatattagta 120  
tttacaagaa tggctagtgt ttcgggtctt cctcgaagaa ttataaaggt tggtaaagta 180  
cagtggtgac ttgagtatta agggcaacaa cggtaggaga cggaaaagtt acttcaggat 240  
ccagttcctg gaattagtgc tgttcctcac gaagacaatg ctcgttattt caatgtgatt 300  
atccagggtc ctgattcttc cccttatgaa ggaggaacat tcaagttgga gttatttctt 360  
cccgaagact atcccatggc tctcccaaaa agtcgtttct tg 402

<210> 326  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-C3

<400> 326

actatttcta gttggtaata acaataaggg aatttcaaag taaggataaa atcaagtgga 60  
atggggtggt ttaacgcctc caattcccaa tccaatgggt ggaatggctc ccaagtttcc 120  
aaaacttccc cgtccaagaa aaattcaacc aattataagg tctggtagaa acaccagaag 180  
gagatcccca agttttcacc aattacgtga ttgtaaaagg aaacttgtgt aacaaagaga 240  
cagaagagtt cctcaaagtt atttgcctc aagtacagat taccaaaggt gatatggaca 300  
acgtgagtat atgccaccta cggaaaatgt caagttggaa actttataaa aaggttcagt 360  
cagaatatcc ggaacgttgt g 381

<210> 327  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-C5

<400> 327

agcttatcgt tgttgtacgt caccaactgt ccatttttat cccaacacaa aagttttatt 60  
acaccaaccc tctttttgcy tgggtatgtaa aacaccgcat ttgccccatg agacaacgga 120  
aaccagcacc acatgggtcgt ttgtccatcg cttcacgggt tgtggaacaa caagaacat 180  
ccaataagca cctaggacaa gatttttgccg ttcaaacaga cctattgcag tccgactcga 240  
gtgagaactt gaaagggttt attaaaacga gaggttggtt gactcctgat gtgccgtttg 300  
tatttttggtg gtccggagat atctattcgt tgatagaaga tgagcctagt agacaccttt 360  
ttgagtttga aggattcaat tatggacgaa tgaaaagagt agatgggtggt tggagactac 420

<210> 328  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-C7

<400> 328

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaa aaaataaata aagaaaaaaa aaataaaaga aataaaaata aaaaaaagaa 120  
taatgtaaaa taaaaacaag aaagtaatta aaaaaaaaaa atgtaaatca cgtggcctttt 180  
gcataatgtg ttttaacgagt taaagaggaa gcatggggat ttaaaaatct ttatccagtt 240  
accacccttt gctatttgat cttatgcttt tcaaacgacg tatggctgaa ccattatctg 300  
tgcaaaaaga tttgccccat atggcataac gcgttttttg ccaatcagag ctagtgatag 360  
ctggtcctcc tcgatggcta tctaaat 387

<210> 329  
<211> 454  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-C9

<400> 329

cccacacgtc cgggtgtggt tacaacgten ccttgattcc tcatcatgtc ttcgtggtct 60  
ttagaacaaa gttggagttg gctacttgac aacttttcag agtttcaatt acatactctt 120  
ggtacattca ttatccatga agtatgttat tggggtagtt atgtgccgtt tctattgttg 180  
gatgccattc cgtactttcg aagggtgaaa atacaaagag acaaggttaa tgatgcctcc 240  
actcagtgga actgtatttt aggagtatta agaaatcatt ttttgtagt gttgcctctt 300  
attattgtga cgcacccctt ttttgcgtgg atgggaacgc gagatgagtt accgctgccc 360  
tctgtcggag agattgcttc tcaagtgttt ttattttttg tcatcgaaga ctttattttc 420  
tattggggac atanagcgtt gcatactcct tatc 454

<210> 330

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-D1

<400> 330

gcttaaggac ggtgctagtg ctgctctttg gacttgccgc ctatttctct atacagttgt 60  
gttagcattt tcagcaacaa taattggact tgatggaagg aaggcagata acatatggaa 120  
cgatgcccta tattatcatg gaaaagtggg gaacttttgt gcatattcgg cttcgtctgt 180  
ttttgaagggt ggcgaccatg gcgcatgtaa atatgtgatg gctttggctt ctatcagctt 240  
gattttagtt ttctttcttt gggtggcctc ctttgtcgac gcattgtatc caattcttac 300  
aaagtctctgg tttgtggagc ttggtatcaa catattcctt actatgtggg gggtgggttg 360  
tgcaattgtg gtgactgcaa agcgaccttc tagtggtggt atggatg 407

<210> 331

<211> 450

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-007-Q1-E1-D12

<400> 331

gtgttaaacc cagtcaagga cttacaaacg gccaaagctt atgcgagaag agtaaaagaa 60

gcagtggaga agagaactac ggtcgaattg cccaaacaag atatttgtgt acgacgtagc 120

gacgggaaga aacacggagt ggtcgctacg agaggagaag atattgagtt tgctcaagat 180

acagcgttta caaaggcagg taccgtcgga gtaaaagttt ggctgagaaa gaaaccgtac 240

tggagattgt agaaggagga acagggagca gcggggcatt cttagaaaag cgaggctttc 300

gctgctaact tgctagtgc aatcgtagtt caatgacttg gtcaacagct cttccgcttg 360

cttttgcaaa taaagacaca agctccgctc ctgtttgtgt aaaaaagaaa aganaaaaaa 420

gaggaaaagg atgaaaatga agagatatct 450

<210> 332

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-D2

<400> 332

tacggccgac attccgagtc caccacgcgt ccgataaccc tgatacaagt acttcgtttc 60

cttgatttca ctcgccata ctggaatcca agtttggcat ttgtgatggg atcggcccta 120

attttatctt tgctgcgctt tgcgttttta agaaagagaa acaatcgacc tcttttatct 180

tcacattcct atattccttg tgttgacaaa atcgatataa aagtgattct tggcgggtgtt 240

ctgtttggtg ctggttgggg cttgggtgga ctttgcctg gtccaactgc tagttagttt 300

ctttagtctt ccggaacagc gtgccaacca catagttact ggatccatga tattggggagc 360

attgctgtat cagcaaataa ctaatttggg agagaaatcc cacggtgatt ccaaaggaga 420

<210> 333

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-007-Q1-E1-D3

<400> 333

cttatcttgg cttacttgaa tgatggtaca attatgacca tctcaaagga caaagtcaaa 60  
 ccatcacctc atccaaatcg ttggaacttg ggtgaagtgt ttntccttgc aacggcaactt 120  
 ggctggtggc tcaactgcagc aactctcatt tactttacaa ctttgtacaa gacatctttc 180  
 tggacagata cttttcctct gtacgcagat tggaagaatc ccaagttgct cgctataagg 240  
 cctccatact tcaacttatgg tcctcaaaat agttttatgc taaagtctct catctatctg 300  
 caagtatcta tgattggaca agctcttata ttctgtaccc gtgcatactg gatgttcttt 360  
 atggatcgtc ctggatatctt attgatgggt gcattttgta ctgcac 406

<210> 334  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-D4  
 <400> 334

aacacgctac cggtctcttt aatttgcaaa ttgcagggaa taattcaccg ttgattattg 60  
 cttaactttt tggcggtaat ttcaaggctc gcttcttctg tgggccggaa ccaaaatatt 120  
 atattatata ttttgaacaa gggaaatata aatcgaagat tctaaaactc tgttggacaa 180  
 ctaatcgaaa agaactccaa agagcgacct cataaaaatg ctataaagtt tctagaaaca 240  
 accaaagaag aagctatttt ttttacgttt gcagaagtaa agaaacatgt gaacgctggt 300  
 ggcgaagggt tgtagaact tggttttggc ccaggaaaga agatcgcttg ctgtcttcca 360  
 cttggaagcc cagagtttgt gtttactttt cttggttgc tacaatcacg 410

<210> 335  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-007-Q1-E1-D5  
 <400> 335

accacgcgtc cggccacgcg tccgcgcttg tttttcgagt gcgtaccgtc gtccaagaaa 60  
 agaaaccaga gttggtatcg agtatgaata atagtttcag tgggtggttc cactctatgg 120  
 ttgtagggtt tccagcgttt caatgtacta taccgttggg gaagaaacct ggtggttggg 180

atagtactag gacgaacggt tgttgttgca agacgaggtg gaacaagaca gacactcggg 240  
ggacaataat acacagtaga agaaaaccca atgcttggac ccgttgttgg aaagcgagtt 300  
ctacgacttc caaaaatgaa gacgacaaag gggatgagaa caacanagga aataacaata 360  
gtggaggaaa aggcggaggt tttccgtttt ctatctttgg cggcaattgg tcaccacgga 420  
aaaacaaccc 430

<210> 336  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-D6

<400> 336

gacatttgtg cagccttgtc gtctctttac tggacgttgg aatcctttga taaaggtatc 60  
atcttgcttt aaaatatact agaatggttt catattattg tctactatgt tgggatgggg 120  
gctcgctcca actcttgttg tgttgccaca aatctgtact tttgcgagc ttctgcaagt 180  
cttcacaaaa agtcaaaagc aatacctttt ctcgatcgtc cgctgcttt ggatgggtcc 240  
atggttggcg atgttggttt cgatcctttg aatatctcgt cctatttaga cttgcgttgg 300  
ttacgagaat ccgaactcaa acactgtcgc attgctatgt tggctgttgt gggttggttc 360  
gtacaagaag tattccattt tacanatcan atatatagcg cttctgatcc t 411

<210> 337  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-D7

<400> 337

accagacatc ccgaggatta cttccttgca ccctaaatat taccttaata tacggcctac 60  
aacacggagc agagttccaa agtgtgtagt gtcgaccac ttgccaaca ccttgcaaca 120  
gggatggtat caggggtgctc gtcaaaactc tcgtccattg cacaatcggt ttcagacctg 180  
gataacggcc ttgacaactg aacgcacatt tcatcgtaga ggttctggta gtggttctgt 240

tgggtggtggt atgggtggtg gtactggtgg tggatcaagt aatgcaagag ggaatggaca 300  
 acgtcgcgtg catccccgca tgcctttctg gctgcggtac aatccacggc cataatcgcg 360  
 tccttcactg accac 375

<210> 338  
 <211> 302  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-D8

<400> 338

aagaaactgc ggacaaatat caggaaacgt ccttatccaa actacattcc atggcagtat 60  
 ttcaagacat atccttggtg gtatggatca aactcgttcg agaaaacaaa actcgattgt 120  
 ctggtaaaaag acaagcagag atacagcata tcttaccaga tttttttgta taaacattct 180  
 atagtaaata ttgatacaag ggggttggtt ttgggttttg actggctgcg gttccaaaat 240  
 agggccactt gcttatcaat gcatataacc aaatgataaa aataaaagag agtttcatat 300  
 ac 302

<210> 339  
 <211> 490  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-D9

<400> 339

cgggcggaaa tccgggacgg ccacgcgtcc gccacacgt ccgcccacgc gtcgcccac 60  
 gcgtccgccc acgcgtccgc ccacgcgtcc gcgaatttgc tcgagaactg tttgaaaaag 120  
 cactacaagt agatcctcat tcagcaccta catatcaagc atttggtttg ttggaaagtc 180  
 gtcaaggcaa caaagatcga gctaggcaat tgttcaagcg tggactagga gtgaatcctc 240  
 aacatagtca tttgctacat gcttgggcgc aattggaaga gtcagcaggc aattttgagt 300  
 ttgctcggca attatatgat tggggcgtaa aatcggagtt tcccaagtgt caagtaactt 360  
 tgaaatcttg gctaaaaatg gaaataagtc ttgggtatct cgatgagtct atgtcaaagt 420  
 tattaaatct ccgttcaacc gccaaacaag ttgttgaaga gctgagaatt atgcgcaagt 480



tacttgaaag

490

<210> 340  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E1

<400> 340

agcaagttgg acataggagg actagttgac ccgaacttcc gaacgggtcc ttttgaactt 60  
gcggtgaaaa agataacagc gttctcttta acagcgctc gtttagttgt tttatcgagt 120  
gctgcagtaa caagggtaga atggaacgag aatcagcgca agatatatgc tggttctttt 180  
aatattccta ttgtacagtt gaatcctgga aatatcttaa atgaaaagaa aaagggtgaa 240  
gatgctgtgc gttccagtgg tataccgtat tgtattatc gcgctactgg actgaatgat 300  
gagcatcctt gtggaagaat cgtatttcaa caaggagata ctgcagttgg tagaataaat 360  
agaaaagatg ttgcagatac 380

<210> 341  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E10

<400> 341

gaaaaccaag tgaggaaaag aaggcaagta gagggcggcc cgagaaagga gagggcgtaa 60  
gacgtgatac agagtaggaa gaaaagagaa gagagctaga aaggaggtaa aagaagagta 120  
aaaggactag aagaggtacg gaattcacga ggaaggagcg tgaaggaagg aggaatccca 180  
agtaatcgag gaagaaaaag cttcgggtgaa agcgtgaacg gattttgtac aactgccccg 240  
tcaagttctg gaagtgtgct aggaataagc aggagaagta gaagagagta ggaaaagaag 300  
aaaggaagtg aagacgtaag acgtgatata gagtaggaag aaaagagaag agagctagaa 360  
aggaggtaaa agaagagtaa aaggactaga a 391

<210> 342  
<211> 449  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E11

<400> 342

gggacggccc acgcgtccgc ccacacgtct gccacgcgt ccgttcaaca tcgtcgttgt 60  
ggacatatcg tcgtcagagt tatggtagtt tcagagatag tagcggcaac gtttatttat 120  
gtctgtggtc tccgcatggc ttataggata attctcagag gtgaaaagaa attgcgcaac 180  
tacttgcttt tgcagaccaa aagtggcgca tactactccc ttcagcgacg attcttgcg 240  
agagttttca aggccattca cattgccatt caatatacac aaaactggaa acggaataga 300  
gccgttacta gtaattatcc agactctcgg aaataaacat gattatcaca acaccacggt 360  
caagacggtg gtagtttgtc gacgaagact tccactagtg gatggaaaac tagtcaaat 420  
cacgttcggc gacggttaca ggggggatt 449

<210> 343

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-007-Q1-E1-E12

<400> 343

gacgaatagg aggaatgtgg tttcgtcatt tacttctct agtaagccgc tttcccatca 60  
agggaggtta cagacgcttg agttctactc aacaagaaac ttctttaccc gctaacagaa 120  
ggaagtact gtatagaagt aaacaaacag gttttcttga actcgatctt atcctgngaa 180  
actgggcgga agaaaatctt tcaaaacttt cagaagggga aattcaagaa tacgagaaac 240  
taatccatcg tgaagttcca gacttgact cttggctaag tggacagcaa gagcctccag 300  
aagaacttga cggaaaaatt tttcgtcgca tccgagattc agtgtggaaa ggtacaatca 360  
ataagagtaa aactac 376

<210> 344

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E3

<400> 344

accacgcgtc cgacacgcgt acgccacccg tccggaagga atggcaacaa cttcggtaaa 60  
caacagatat gaacattatg gacaaggacc aaacctactt ttcaaaattg gatggcaaca 120  
tggccaaaaa ctgggtaaatt ttgaacaagg actttcgaac ccataaaccg ttatcaaacg 180  
gcaagatcga gttggcttgg gagccgaaca aaagacagtc tggagtgact tgtggtggga 240  
aagatatcta tcggaagcaa tcaacaagaa tctccaacgt ttgaaagat ccacgacgga 300  
aaaaggtgaa gacattgcag aggaaagtac tgtctcacga aaagaacgga agaagaagaa 360  
gaagaaaagt agttctcgtt cgaagaaacg aaaagaaaga g 401

<210> 345

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E5

<400> 345

atactacaat gggaaagtta caagtaggag acgaagcacc tgactttgag ttgaaagacc 60  
aagacggtaa tatagttaaa ttgagcgagt tcaaaggaaa atatcctgta gtcctattct 120  
tttatcccaa ggacaagacg tatggctgca cacgtgaagc ttgcagtttc cgagataaga 180  
tgtcgggaatt taacgaactt aatgcgaaag ttttcggtgt gagttcggac agtgtagagt 240  
ctcacaagtc gtttgccgat gaacaaaagt tgacgtttcc cttattatct gatgaaggcg 300  
gtaaagtacg caagctatac ggtgtaccaa agagcatgtt tattatgcct ggtcgcgtgca 360  
cttatgtcat tgggtccgat ggtattgtac gacacatcta c 401

<210> 346

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E6

<400> 346

gggaattggc gttaggggtg cagtgaagca tgggatttgc agagttcgaa cgctcttatg 60  
agaagtatac aggaggtgac ccatcgagaa tgaaagtgtc cgtggagaaa ctagacgaag 120

agcaggttcc acttcataga agagactatt gtgcacatTT gtatatTcct ttgcgccgtt 180  
 gtttgagaga caactatTTt ttgccgtggt ctTgtgagga agagaaggag gcgtataacc 240  
 ggtgccaaag aaaagagaga agaagaagag aacgactcta taagaaaatc aaggaagagg 300  
 cctccaaagt atcggcgacg gaagaacaag atgaataata tcgtgttggt gcgtcgtctt 360  
 tgtgttgga caataataac tcctcaaata gtaaacagct tgatttgagt ttcaagttta 420

<210> 347  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-E8  
 <400> 347

accacgcgtc cgcaggTact cgaTgagaaa ggagacccaa attaaggTga gagaatggac 60  
 gataaggaac taggcaaaag gatatggtat ctgcggTaga acatatgaaa gaagcagcac 120  
 cgactgttta gcaaaaacac agcactctgc agaaaagaga aaatgtagag tatagagtgt 180  
 gcggcctgcc aaatattaga gaagaaatcg atgaaagtga aagcgagtaa aagatgaggt 240  
 atagagaatg gcggtcctaa ctgtaaggat ccaaaggtag cgaagtaaT agacgtttga 300  
 aaggcgTcca gtatgaaagg agaaacgagt gtagcactgt ctagtcgtcc aactcagcga 360  
 aacagcaata actgtgaaaa tgcagtaaac tagcagtatg actgaaaga 409

<210> 348  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-007-Q1-E1-F1  
 <400> 348

gagcaaccaa gtttgtgaag caagtgtgga gttganatat ttagaggcag tagagaatgt 60  
 acaggaaata tacanaaata ttccagagag tgatctattg gagttgtatg gtctatataa 120  
 aagaataaag gatggagaag ctCctttaca gaatCctttc tatttctatc aatggaaaga 180  
 aactgccaaG tggaagagtt ggaaggaggc aagtaataag tattcaaaag aggaagctat 240

gaagaaatat attgcactga gtgaaaaata tcacaagaaa gattccaata caagttatac 300  
 tgggaaacag cctttaagtt tcgagttgcc taacagtga gaagagcaat cccagaaacc 360  
 tgttttggac ctttggttatt ttactg 386

<210> 349  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-F10  
 <400> 349

cccacacgtc cgggtggtgg cgacgttggg ggctcctatt gatagacagc tgttatgtcc 60  
 ttttaataaac tgttgaaaac attggctgat agatatgcgt ctcaagcagt tccaacaaag 120  
 actgtggaag gttgggaaac aaccgctgat ttacgaaaaa agttgattgc gactcatatt 180  
 aacgctctcc ctgttcgttt ccaacgcgca agagaagagt tgaaggattt tgtacaaaag 240  
 actcgtacgt tggactttac gtatcttgat gcgtttcgtt ttggtttccg aagcttagag 300  
 ttggcggcat ggtactggat cggaaagacc ttggggaaga gggaacttcc caactcgata 360  
 tgaaatgtgt cttcggcaac tcttcttttc tcggaaatac aagcttttat gtgctcgtgt 420  
 tttt 424

<210> 350  
 <211> 304  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-F11  
 <400> 350

catcgacaaa gttgagaatg tcacaagggtg ctgttggtgg cttgggagtg aaacgattgc 60  
 ttccgcgagta tcgagagctt gaaaaggaac aacataaacc tgatagttgg tttagagctt 120  
 atcctttaca ggaagacctt tttgagtggc actttactat aaatggacca gaaggtactc 180  
 cgttcgtatg tggtttttat cacggaaaaa tactgttgcc acctgaatat cccttcaagc 240  
 cacctgatat cgtcctgcta acaccgaatg ggcgttttga aacaggacaa cgtatctgcc 300  
 tgag 304

<210> 351  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-F12

<400> 351  
 gaaggggaagt aaaaggtaag aaagaggaaa ggtttacgag agaaggaagt agaaagaaga 60  
 gagtgttaagg cggcgtcata atagaaatcc gaaaagagta aaagaaaaga gagagaagaa 120  
 agaaaagaag agaaaagccg tactgaaaac cgacacaggt actcgaggag aaaggagacc 180  
 caaattaagg tgagagaatg gacgataagg aaacaggcaa aaggatatgg tatctgcggt 240  
 agaacatatg aaagaaacag caccgactgt ttagcaaaaa cacagcactc tgcagaaaag 300  
 agaaaatgta aagtaaagag tgtgcggcct gccaaatagt agagaagaaa tcgatgaaag 360  
 tgaaagcgag taaaag 376

<210> 352  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-F2

<400> 352  
 cccacgcgtc cgaggacgcg tgggttggtt ccctcttccc tgtttgtcac tgaagtctct 60  
 tcatacatcc ttcgaagcat atctaaatgc tccgaggaaa ctccctcaga agaagtcgcc 120  
 ttttctgaag acaaaacttc ttcttcacct tgtacagacc ctgctggtgg attgtctggt 180  
 tcaacaccct caacgcttgt actctcgttc gttatttcac cgacctcctc tgaagatgag 240  
 ccttggtctt cttggttgtgt ctgattttct agtcttttac gaagactgct taataaatcc 300  
 tcgtcacgaa caggagaatc atcgtctgat tcaataaatt cccgtttcaa ctgttctagc 360  
 ctt 363

<210> 353  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-F4

<400> 353

actgcttcag gtgcaacttc aattttaccg ttgcttcaaa ttaaaagaaa ctatacttta 60  
acagtgcaaa ccataaagct ggctaatac acagacgtat acaacagcag tgtattgggc 120  
tttacctttc ttgcttccaa tgacactgct tggaaacaat caagagccaa tgtcactggc 180  
gcacttagtg cagcaaaaca aaacgtaaca ggagcaatag cgtttctaga acgcttgata 240  
gcagcaagca cagtgaataa aacgggtggag tttagtaagc tctctagtgg tacgaaggag 300  
gttgtttcgc tggcagggtt accgcttaat ttcacgaaaa attctactgg agactttgtg 360  
gaaggtgatc cgggtctctgc tgctga 386

<210> 354

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-F6

<400> 354

accacgcgtc cgcccacgcg tccggttgca aggcatggga aagaaccgtt tgggtttggc 60  
ttcaagtgca accaagctat ataaaacagc ttattctggc tcatacagaa gaaacttgcg 120  
caactctcgt gggtatctgt ggattgggtg tttggttgga ctctcagctt tggccacctg 180  
gtactcgcac caagtcaacg cagattcaca ggccgtcaag gaaagtgttc aaaaactaaa 240  
tctgaagat ttcgtgcctc tccagctgat ctcaaatac ccttataatc acaacgttgc 300  
aagggtgcgt tttgctattc aatcttcaga aagtgaagac tttcctgcag tcagcctcgt 360  
ccaagtaaag acaaaagatg agcaaggaaa cgatgtgatt cgtcct 406

<210> 355

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-F7

<400> 355

acaaatttga aacgcgtggt tgggttttta ctttgactt gattcttgta aaacatgtct 60

gacgatattg ttgccttggt tattgacaat ggctctggta tggtgaaagc aggagttgca 120  
 ggggacgatg ctctcgttc cgtcttcctt tccatcgtag gtcgaccaag acaccaagct 180  
 attatgggtg gtatgggaca aaaggaaagt tatgtgggtg atgaggctca gtctcgaagg 240  
 ggtatactct ctttaaaata cccaatagaa cacggtattg tcactaattg ggatgatatg 300  
 gaaaagatat ggcaccatac tttctacaat gaacttcgaa ttgcacctga agagcatcca 360  
 gtcttgttga ccgaagctcc tctcaatcca aaggcaaaca gggaaaaaat ga 412

<210> 356  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-F8

<400> 356

accacgcgtc cggcccaatt cccaacgct ttggagtgtc gttgtgttgt tgttggtgag 60  
 gtgggaagca agaagagatg agtagaggaa gtagtgccgg ttatgatcga catattacta 120  
 ttttctctcc agagggacga ctatatcaag tagaatatgc ctttaaggct gtaaagtcag 180  
 taggaattac caccgttgct gtaaaggggc tggatgcagt ttgtggagta actcaaaaga 240  
 aggttccaga taagctcatt gaccctaaat cagtcaccaa tgttttccga atatcggtac 300  
 accacggctg tatttttact ggacttgcaa cggacgcaag ggcacaacta caacgaacac 360

<210> 357  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-G11

<400> 357

ggcagaaaac gccatgaatt ggagcacctc atttcggctc agaacaatgt gaaagccaat 60  
 atggagcagt tgaggaaata tatcgatata catcatggag gttactggaa acgtttagaa 120  
 agcctcaacc aagaattaaa tgaacatatt aatgaaatag aggaattgag tgttctaaag 180  
 cattgctatg aacttgcaga aaagagagaa acggttgcaa tgcaacagag attgtcatcc 240  
 aaggagcgcc tcaccaacga gttgaagcag cgagaactag agttgcagaa acagtatggg 300



gaacttttta tagagcgaga tagacttttg tcaagaaagc tttaacacac aaaacatcta 360  
cgtat 365

<210> 358  
<211> 338  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-G12

<400> 358

gcggagaaac gaggtggagc tcggggccct gagaacgttt ggggtgctgc aagttccggt 60  
gcagtttgtag caattttgta tgggtgttta tctccttatg gagttgcaaa actgtcggtg 120  
ttgcaattgg cctttgtagc gtcactcagt agtaaaactgg ccgatacagt ttcaagtga 180  
ataggaaagg catatgggaa gcgtactttt ttggtaacta attggaaacc cgtaccagct 240  
ggaacagacg gtgaagtcac cctggaaggt acccttcccg gattattgga aaaacggaaa 300  
tgtcctattg ggccctgggtt ggccggtgga aaaatttt 338

<210> 359  
<211> 250  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-G4

<400> 359

cccaggcgtc cgaccacgcg tacgcccacg cgctccgctgg aattatgttg tcggaaactt 60  
ttgtgaacct gattgcttgg tatgataatg agtggggcta ctccaatcgt gttgtagatt 120  
tgggtgcacca tatggcgaaa gttgatggtg tagettaact ctgcttttct tgttggtttt 180  
tcgtgtattg tttgttttgt gaaagagatg aaatgtgttg tcttttccat aaaaagttgt 240  
gtgcgctgtg 250

<210> 360  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-G5

<400> 360

aagaaagtgt actacagatc acatttcgat ggcaggacct tggctcaagt atcgagggtca 60

cctggataat atttccaaca acatgttcat cggtgctatc aatgcggaaa atggcaaggc 120

caattatgtg aagaatcaat tgactgggtca atatgggtccg gttcctgata ctgctcgtgc 180

atacaaagct gctggattgc catggattgt tattggagat gaaaattatg gagaagggtc 240

tagtcgagaa catgcagcac tggaacctcg tcatttggga ggtgttgcta ttttggttcg 300

ttcttttgca agaatccatg agaccaacct caagaagcag ggccttcttc ctctgacatt 360

tgcggtatccg gcggattatg atcgta 386

<210> 361

<211> 400

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-G6

<400> 361

atcttcttta tattctttgt gcttggacaa tggttgcaaa gactgctctg agttgcctct 60

ttctctcttt ccttatcgct gccgcagttg cagccgacgt agtttcagag gagagatggg 120

gatatgctca gcaaaccxaa caacagcaac agtgccaaca agtatgtaaa cagtatgcat 180

actatcagag tccagtctgc acttccgtaa ccacacagag cccatactgg acccaatgct 240

cgaagactgt gcaaaccttt gtcccaagcc agtgcagtag ttatacccaa tctcctacat 300

ggacctattg cagcacctac accaccaata gcgtaccatc tcaatgcagc aaggccgtga 360

ctacctatac tcaaacctgc tgtgcttatg cccaacaaac 400

<210> 362

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-G9

<400> 362

cggtccggat atccgggacg gccacgcgt ccgctccgaa cttcgtttct tctgcctgg 60

ttttcttctt ctgggcgatt cttttcctta cgagatcgat catgtcacia caacataaag 120

ttgtctctcc aacagggttta gaggaacag actcggtaac actgacacgt tttgtcttac 180  
 atgaacaacg caaacaccca gagtcccaag gagacttgac cttgttggtg acttccggtc 240  
 aactggcgtg caaagtgacc gactcttggtg tgagaaaggc aggtattgcc aaactatatg 300  
 gactagctgg aggaggtaat gtttctgggg atttacaaca aaagttggac gtcatttcca 360  
 acgaaacctt caaggtaaac atcgaaagta gtcaa 395

<210> 363  
 <211> 369  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-H1  
 <400> 363

cccacgcgtc cgcggacgcg tgggggggtat tgcgactcat ggccatgctg ttggtaatgt 60  
 gtgtctatag aagaaatttg gatttgggca attcgatgcg ccaagatgat gtaatgacgt 120  
 gaacaagggtg cttgtgaaca acttggtcac tatgattttg ttgttctctt caaagtcaag 180  
 gagtttttag taaacatatt cgttccctta gctttacaat tcatggacac ctgttgccac 240  
 agttctttgt ctgcaactct cttggagggt ttccccgagt cgttaccacc aaagtttttg 300  
 gtggagcacc tcgaccagtt gcttggtgtg gacctgcgtt gctctcaact gtacagtttg 360  
 ggacacatt 369

<210> 364  
 <211> 453  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-H10  
 <400> 364

cggacacgtg ggtgcgatgc ggtggacctt gcaatcgat cttctcgttg ctttgactgc 60  
 caccgttgcc gctggtttta caactttagt tacgagatac aagcatgat ttagtatggt 120  
 gagagctaga tggtttaggg acgtgtttga agatttgccg ttaagacttc gagcaagtga 180  
 agccgccgcc ataagggaga gattggactt gctagaagct aaaatattgt cttcaagcaa 240  
 cagcagtaga ctttctgttc attgcctcg tacacttgca gaagagaaac ctattcctga 300

gtgggatcta gttaccagag aagatttcgt tactcttcga acgagagtag atgatctgtc 360  
 caaagagttg actagtatca agtcccaagc tgacaagtct ctccaagtat cggaagatat 420  
 gttgcgtaaa tacttacaaa acgcagtttc gac 453

<210> 365  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-007-Q1-E1-H11  
 <400> 365

cccacacgtc cgcaagaagg tgttgacagg ctgtcgaaag aacgtgctgt gaagtgagag 60  
 aacgtacgag aaagccaagt gagggaaaaga aggcaagtag agggcggccc gagaaaggag 120  
 agggcgtaag acgtgatata gagtaggaag aaaagagaag agagctagaa aggaggtaaa 180  
 agaagagtaa aaggactaga agaggtagcg aattcacgag gaaggagcgt gaaggaagga 240  
 ggaatcccaa gtaatcgagg aagaaaaagc ttcgggtgaaa gcgtagaacgg attttgtaca 300  
 cactgcccgt caagttctgg aagtgtgcta ngaataagca agagaagtag aagagagtan 360  
 gaaaagaaga aaggaagtga agacgtaaga cgt 393

<210> 366  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-H2  
 <400> 366

accacgcgtc cgaagaagag taaaaggact agaagaggta cggaattcac gaggaaggag 60  
 cgtgaaggaa ggaggaatcc caagtaatcg aggaagaaaa agcttcgggtg aaagcgtgaa 120  
 cggattttgt acacactgcc cgtcaagttc tggaagtgtg ctaggaataa gctatataag 180  
 tagcgtatgc aggaagaag aaggtaaagg aagagaagga agaagcagag agggactatg 240  
 agcgagaagg tggatagtcg agagggaaaa agcccagaag ccaagataag gtatcaaagt 300  
 aaagaaagaa ggaaaaggag aagaagagag ggtaggctta gaagcagcaa accagagagg 360

<210> 367  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-H3

<400> 367

gtggtagttt ccgaaagact tgcggaatct ccatgtatcc ttgttactgg tgagtttggt 60  
tggtcggcca acatggaacg tatcatgaag gcacaagctt tgcgtgattc gtccttgga 120  
atgtacatgt catcgagaaa gataatggaa attaatccca acaatgccat catgcaagaa 180  
ttgcgtcgcc gtgtggaagc agacaagtca gacaagaccg tgaaagactt ggtcaattta 240  
ttatttgaca ctgcattgtt gacttccgga ttctctcttg acgatcccaa cgtttttgcc 300  
ttctgtattc atcgcatgat taagttaggt cttagcattg acgaagatga agtcacagaa 360  
aagatggagg aagaattacc ccctctcgag accgaacaag 400

<210> 368  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-H4

<400> 368

ccgaacacgc ttacggccat ggaacaagaa cgattagaac attatccact ggtggaatta 60  
tgtgaaagtg actattgggtt ggcatacaat ataatatctg ttggtactaa gttgcaaaac 120  
acaataccaa aaaggatgct tggatttgtt tggacgga aaatatatgac gtgactcggt 180  
ttctggacga acatccgggt ggagaagaag ttctacttga agttgccggt atgtgttatt 240  
tcgaggaaag atattcctat ttcgcgcaaa atatcataat aataataacc atatgttagg 300  
gcgtgatgct acgagagagt ttgaagacgt tggtcactcg gatgaggcaa gagaactacg 360  
aaacaagtat ttcgtgggag tagttcgtag tgaaacgaaa gaaga 405

<210> 369  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-H6

<400> 369

agaaacgaca cttttgcctt taaatagaat actctttctac gacaactttt tcgtattctt 60  
gtttgcaaag ctcttcctta tattctttgt gcttggacaa tgggtgcaaa gactgctctg 120  
agttgcctct ttctctcttt ccttatcgct gccgcagttg cagccgacgt agtttcagag 180  
gagagatggg gatatgctca gcaaaccxaa caacagcaac agtgccaaca agtatgtaaa 240  
cagtatgcat actatcagag tccagtctgc acttccgtaa ccacacagag cccatactgg 300  
acccaatgct cgaagactgt gcaaaccttt gtcccaagcc agtgagctac ttataccxaa 360  
tctcctacat ggacctattg cagcacctac accaccac 398

<210> 370

<211> 387

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-H7

<400> 370

agcaagtggg agtggcgtgt gactgttatt gggtggagcg ccaaactttg tttcctttac 60  
ttttcatgtc cacgaaacaa caaagtcaag cagccttgct tctaataaaa cagctcaaaag 120  
agctaaacaa gaaccccgac tgtgggtttt cggcaggtct tgtagatgaa accaatcctt 180  
ttgagtggca agttatttta agtgggtccac cagacacctt atatgaggga ggcgtgttca 240  
aggcacgtct ggtgtttcct caagattatc ccgtcatgcc tccgacgatg aggttcactt 300  
cggaaatgtg gcacccaaat gtctatcaag acggaagagt ttgtatatct atcttgcac 360  
caccgggaga cgacccgcac aactatg 387

<210> 371

<211> 393

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-008-Q1-E1-A1

<400> 371

gcgcagcaat atcgggctta cttttaaggg acgcttgtag tttcatact ggtgaatata 60

taagaggttt atttcagtta tgcattgcaat taggaagagt agaattggaga ccagaaattg 120  
 tacgacacgt agaagatttg aaacagacca atgagtttca agatattgtg ttttgactg 180  
 gagctgatat taactttatc ggtgggatat ctggacacgt atcgataact cgttcgtttg 240  
 gtagaaaactt ttattatcat cagggcgaaa caaatctacc gttaaagggtg cccatcatat 300  
 gtggaaggta tctcaccgat aaagttaata tcagctacat acaanaaaaa aaaaaagggg 360  
 agagtggagg aagaagaaaa aaaaaagggg ggg 393

<210> 372  
 <211> 295  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A10  
 <400> 372

cggacacgtg gggtttgcta ggaagaagga agaaaagcaa tattcttgaa aaactcaagt 60  
 gggaagctcg ccaccaacta ctttattcac gggtagctgc tgctgctcgt tacaaaaata 120  
 aagtatccta gtgctcgacg ggataagctt tgagtaaaaa aaaaaaaaaa aaaaaataa 180  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaacaa aaaaaaaaaa 240  
 aagaaaaaaa tggaacaaga cctaaaaaaa tggggcgagca agtccagggg ttttaa 295

<210> 373  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A11  
 <400> 373

aaaaagacaa aaatacgatc gatgcagatg aaaagaagag aaatccaaag ttgacttttt 60  
 ctacaatagt caacgacgca ttgtaagaaa ttctctttcg cattcacaat ccaacacttt 120  
 tttgatcctt ttcgtacatt ttggattgtg gcacacaaca tgaaaattcc tgtccgactc 180  
 gtcaagtttt ctttggaaaa aaagaagcca acttgtttca acagaagtat aagtggaatc 240  
 gcctacactt tttctcgcca tggacaggtt tctgatgtct tgaaaaagga gactcaaagc 300  
 tatgatgaga agaaacttgg tccttcgcaa gtactcgtgt cgtttcttgc ctcaagtata 360

ggcacaacag atttggcgtg gataagaggt atgggaaaga

400

<210> 374

<211> 419

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-A12

<400> 374

gaggaaaaca tggcgacatt tacggcacgc ctcaagcagc tctggaatca tccagcggga 60

cctaaaacag tgtttttttg ggctcctacc atgaaatggg ctttggtggt tgcaggcctg 120

tccgatatga agcgccccc tgagaaactt tccgtacctc aaaacctagc tttggcttgt 180

actggagtta tctgggttcg atatatgttt gtaataacac cagtaaaacta taacttggca 240

ctggtcaata cttttgttgg tgctaccggt atttatcaga tttggagaaa agtgaaccac 300

acctatttcc aaacaaaaac aagtttctgc taattgattc gctatgagac gtgatggagt 360

gagatatcga acaacttttg gtgtgtgaaa tccagtgaat atgaaagatt tgggtgtttt 419

<210> 375

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-A3

<400> 375

gtcgaccgac ccgtccgatt tgcaactggt agaaaatgga atgtgcaact taagaagaca 60

tattgccaat acgagagctt ttggtatacc tgtggtggta gctttgaaca agttccagta 120

cgatacagac gcagaattac agctcgtaat aaagagatgt aaggaagcag gtgcctttga 180

tgcagttttg gccgatcatt gggcacaagg tggtcagggt gctatagagt tgggacaagc 240

tgtcattcgt gcttgccaag cagccaaaac tccattgcgt tttagttatg cattggacga 300

ttctctcata gacaaagtga aggccattgc gaaaaatggt taaaaagcaa aggatgtgga 360

attctccgaa gatgcaaaga ggaaaataga aa 392

<210> 376

<211> 379

<212> DNA



<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A5  
 <400> 376

catgattcta tgcagcgctg aaaatggttg ctgagcattc tatattcata ccagtccaag 60  
 ttccgccata cttttcggtc gttgtgtatg gggacacagt cttctgaaag ttgtttgggc 120  
 agtttacctc tctcctatat tgagatacca gaaaagtgcg caacttcgca acggaagccg 180  
 cctgttatac tccttcacgg agtcttggtc tctggagcta cttactcttc attgcttgcc 240  
 agagacgatt ttgttcccga ccggagaaaa tatgcttttg attcccgaa ccacggttcc 300  
 agtccacact ctccacatat gaactatgga gtcctagcag aagatgtaaa gcgttttttg 360  
 aaaaattaca acatttccg 379

<210> 377  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A6  
 <400> 377

cccacgcgtc cggtcagttg gaaagcctcg tagagaagaa ttattatttg cataagagtg 60  
 ctaaggaagc ttatcggttc tatttatttg catagcttc tcagcatatg aagcatatct 120  
 ttaatatgga atctttgat ttgaaagcag ttgcgaaaaa ttttggttta agagttccac 180  
 cagcagtaaa tctgcaacag catcaatgaa aaacgtcctc agtcgaatcg aaaactgcaa 240  
 aagaagggtg ccaagacaga tcgtttgaag gctatttttg agataaagtt ggcgtcatcc 300  
 aaactttata gcaagtcata gtcgtccagt tgatcgttat ataaaagaac ctttctcttt 360  
 gag 363

<210> 378  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A7  
 <400> 378

cccacgcgtc cgcccacgcg tccgcgacac tacattgttg tggagaaagt tgtgtttagc 60  
 gcacccgacg actcgggatt tgcagtgggt caggctcggg ttctggataa caacgatgaa 120  
 atgcaacatc catcgccatc ccaggatggc tcatcgttgc aaaacgaaac agagaaaata 180  
 acgattgttg gaaagcttgg taaaatagaa gaaggattgc atttggctgt ggaaggagta 240  
 tgggtaaacc atagcaagta tggtaaacag tttcaggtgc aggtggcaca gacagaacct 300  
 tttagccatg aagattattg atagacccat agtttctgtg taaagtgaga tgatagaata 360  
 aaaca 365

<210> 379  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A8  
 <400> 379

aaaccaaag cgactttgcg tttgaccgca agtttttgac caacgaaaag ataacggaac 60  
 tagcagctgc cgactatttg gaaagttgtg tggacagaga ctttcagtat acttttgatt 120  
 ggacgagtat ccatgaggct tatactcttt taagttcact agcgtttctc gtcgtttttc 180  
 agacgtttac agctttcgtg gataatttta ttcaacaaca ggaacgaaag gaggtacagg 240  
 aagagatgga acgattcggg cgctttttat caccaaaaac agaatataga gacgatgtga 300  
 gtttggataa agtggatgtg aatatgtgga aagcacagca accagagcgt tggttttttg 360

<210> 380  
 <211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-A9  
 <400> 380

cccacacgtc cggcattccg ctggagccct cgcatggag aaatggaaag actatcgcgc 60  
 gtgtattcga ccaccaagtc gtccattgtg taagtagagc actggaagaa ccgtttgaaa 120  
 gaactggatc ccgtgcttga tgcagtcgaa ccaagttaga agtcctcacg ggaacaagtt 180  
 tccaagtggg tacaccagca catgaaggat attagtggag aacatgaaca aatcgttgtc 240

caagaagaca ctcgttaaga cgtggttcat gcatgagcga gtgcagcaca cgactttgac 300  
gtcagatagg tggacagtca cagtcaacgg atgagaatct ctcga 345

<210> 381  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B10

<400> 381

ctgcggctac aagtccgga atcgcgggat cgacgatgac atttctcacc aaaaaagatg 60  
tggaacattg tttcgtatgtg atatggttta gcatatttga tatccaatat tcttgtttat 120  
gttctttgaa tgccttgaac cagatgtgtc gaacctacag cgtgtctgtg ccggctggcg 180  
atgactttga atttccaaac tctccttgc taaagtactg ggatctcgtt cattttgttt 240  
cccatagcaa cgaacctgta tttcgtgtat ttcacaagtg catcatgtgc tgcttttttag 300  
aacaagaat agttgtcttt cgggatggcc tttgtatact gaaaaattcc aacagctggg 360  
tgttgttga tgctttgcgt gaaatcacia aacatgaaaa ggacaaagaa aacccttcc 420  
tcca 424

<210> 382  
<211> 456  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B11

<400> 382

gaacaaaatg aagactctgt aaaaacagag gactctgcc aggaacaaga actactgaaa 60  
cgttgcaagg aggctgagag tttggcagat agtcgtttga aagaactcca agaaacctg 120  
gaagaccaa aaagacttgc gtagagttg gaacggttaa agagcgagcg gtagctata 180  
aaaaaggacg atatcacgca aagtgtatt tattgttcat tggaagctgc ttttcaaaaa 240  
ctacagctac aacagataga atgggaacga gaacgaggca acttgaagaa agagaaagat 300  
gaattgaaa gaataatga agagaaatac ggcttgaga ttcaaagact aaaaagaaaa 360  
gcttcggagt ggaaacaaca gttggaagat gccattcata ctagtaatga agccaaaagc 420

caaagagacc aagcgcttat gcgttatgag gcgaaa

456

<210> 383

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B12

<400> 383

cccacgcgtc cgcccacgcg tccgcccacg cgtccggaag aaagaggcaa atacgggaaa 60

gcagtaaaag aagaaagaga aaggaaaaaa ctggagtagc gaaacaagag aagggaagta 120

aaaggtaaga aagaggaaag gtttacgaga gaaggaagta gaaagaagag agtgtaaggc 180

ggcgtcataa tagaaatccg aaaggagtag aagaaaagag agagaagaaa gaaaagaaga 240

gaaaagccgt actgaagacc gacacaggta ctcgaggaga aaggagaccc aaattaaggt 300

gagagaatgg acgataagga actaggcaaa aggatatggt atctgcggta gaacatatga 360

aagaaacagc accgactgtt tagcaaaaac acagcactct gcaaaaaaga gaaaatgtta 420

ag 422

<210> 384

<211> 261

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B2

<400> 384

gtcgtcagc acatggaaaa cgacttgggc atttcctctt ggtgaattgc acaataatac 60

atcgttcact aatgcaagct atttcgttca ctccgtagtc gggatccatg aagaaagact 120

gcaaggaaga cacaagaaa cacaatttta ttctactgaa tcacaatgga agaaactcct 180

gctactggaa gctcgagagt tatttttcca ttttcaacta gaaaagttcc gactttctta 240

aagtaaagtc ccttccaggg a 261

<210> 385

<211> 350

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B4

<400> 385

cccacgcgtc cgctactctt gaaggatgta ccgtcagtgct ttgaagagag ttttcaagag 60  
tcgtttcatg gcttcagaag cggggaaata ttggaaagga agcacaaggt ctttttccag 120  
ttcagctggg acccagagga atgattggag gtcttctgta aagaagttat ctgttgctgc 180  
cagcgtaggt gctgctgtgg ctgcctttta tggaattgaa agacatagga cagcccctat 240  
ttcttgcaag gaggcataaa ctattgcaaa tggttccgtg aattatgaca aggtcagaga 300  
agcaattgta aagatcattg tgcaggatga taagattgct cccaccatgt 350

<210> 386

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B5

<400> 386

gagaacgtac gagaaagcca agtgaggaaa agaaggcaag tagagggcgg cccgagaaag 60  
gagagggcgt aagacgtgat acagagtagg aagaaaagag aagagagcta gaaaggaggt 120  
aaaagaagag taaaaggact agaagaggta cggaattcac gaggaaggag cgtgaaggaa 180  
ggaggaatcc caagtaatcg aggaagaaaa agcttcggtg aaagcgtgaa cggattttgt 240  
acacactgcc cgtcaagttc tggaagtgtg ctaggaataa gcagtcgagt agtagagtaa 300  
gtgtaaaagg gaaaggaaag gagagaaaga ggaaagggat gaaatgcaga gatctctaga 360  
gaaaggcaag aaagaaaaga aaggagagacc cagt 394

<210> 387

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B6

<400> 387

cggaaagcga caagtcagtg cttgttgtct tctcaggtcc atctggagct gggaaaagta 60  
gtatcataca aaagctgaac aaagattacc ctgatcgaat aggatttagc gtaagtcaca 120

caacaagacc accgcgaccg ggggaacaaa acggagtaga atactatattt gtttccgagg 180  
 aaaaatttaa aaaaatgata gagaatagtg aatttataga atatgcgaat gttcatggaa 240  
 attattacgg aacaagtttt caagcagtag agagtgttct caatagagga aggctgtgtg 300  
 tgctggacgt agacgttcaa ggatgccgtt ccattcgtcg gagaaacatg aaagctataa 360  
 taatatttgt ttcgcctcc 379

<210> 388  
 <211> 224  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B7

<400> 388

aaaaaaaaa aaaaaaaaaa aatagaaaaa aaacaaaaga aaaaaagaaa aaagaaaaaa 60  
 ataaaaagaa agaaaaacat aaagaataat tacacaagtt cacataagat ttaaaggtag 120  
 gtctcggcgg gagtctaacg ggattgcagg ttttaagtcg tttttaaacc ttttctgttt 180  
 cggcaaaact cttacgtaac ttgatttaaa ggcttggtt tttta 224

<210> 389  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B9

<400> 389

aaaaaggaac ggcaagacgg agttggatat ccattcatct acatatatat atatatatag 60  
 atatatatat acatgtatag atgtgtgttg gaatatacca atatatttta caacgaaaat 120  
 agagaaaccc caagtttgggt gaatacaaaa aagaaataaa aacaggaaac agaaaaagaa 180  
 gaaaaacaag gtggaactga caaaagggtcc aaacaataga agtcatcaat ggggaaaatt 240  
 gggcaatgta cagggaaatc taaccaata ttgatgagtg tcgtaaaaaa aaatcgaagt 300  
 aggaagaagg acataatgga acttatggca caccaggtg ccaacaccac ctgtaaaacg 360  
 t 361

<210> 390

<211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-C1  
  
 <400> 390  
  
 gacgacgagt cgcgtcaaaa agtactgttt atttactaga cagaagctga tacagctgct 60  
 gtcgtacaca aacaacacaa gcaaacagtt ggaagccgac tgtgaaacca acccacattt 120  
 ccagactccc aacagaactg cttctcagtt agttacgcaa tatgcctagt cataaggaac 180  
 acaataaagg aattaaaata tcagctgacg gttacgcact aaagttgagc ggtattcggt 240  
 tggacgtaga cggcagtttg gtcactatgg tggacgcaga cgacctcaga gccctcatgt 300  
 ttaaggaaag cctcaaggaa aagtcaaagc tgcattgaccc aaaatttttc aaaagctatt 360  
 atgaggagaa taaggactac ttt 383

<210> 391  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-C10  
  
 <400> 391  
  
 gactcactca ttttctcttt gttttgtctt ttgtagctgt tttctctgta gtcattgcag 60  
 ttcccgttgg agaagatgca ttcagtttca gtcagacttt tggaaatgct tctgcttcag 120  
 gcaacgcctc tggtattcca gctacaacca agatcccca gttagaagta actagtagtg 180  
 cctcatcaaa ggacaatgga aaagcagctc aagtagactt tgcagattac tcaaagggat 240  
 atccttcgcc tagctatttt tacgctcctt cttacacatc ctatgtggaa tttcctcaat 300  
 atccatccta tccatcatgg cttctcttta atgagcagcc tgcctttggg ggcttcgac 360  
 ccaatgcaga gtttgagag tctgaaattt tcgtgtgatg gaaacaaa 408

<210> 392  
 <211> 453  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-C11

<400> 392

atggcggacc atgatcaagt ggtagcgtac aagcgttcag aagaagaaaa atggagccaa 60

gcaggtgaaa aaagatggca gttattcaaa agactggaaa aagagaatgc tactgcccgc 120

tttttcttac aaaacaaagc tatttttcca ggtgctagag ttttggaact ggcttgtggt 180

tccggagaaa ccactttgca agtagctgcg aaagtaagag gttattctgt accttcagga 240

gagaccacgg gggaagtggg ggataaattg ttggatgtat tacgtccatc ttatcaccag 300

gaagggaaac tggatggtag cagcaatagt ggttcggtag taggtgtaga tatcgccaaa 360

ggaatgctga atgtgttcag aagcatgttg gaaaatactg ttttgaaaga tcacgtgcaa 420

cttgtagaaa gtgacgtgga agcttatgaa atg 453

<210> 393

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-C12

<400> 393

at tt t g a a a g a c t a c g a a g t t t g g t g t t t t t t t c a g g g a g g t t c t g c c t a c t a g t c c g c t t 60

t a c a g c g c g t t g a a a c c c t c a g a g g a c t c a g t g a g g c g t g a a g a c t t a a c c t g c a a a c a 120

t t t t t a a c c a g c t g g g t t t t a t t g a a g a g a a c a a c a g a g g t c t c t t g c a g t t g a a t t t g g 180

a a a g t g g t g c t t t t a a c t c t t c t t g t c g c c a a a t t t t t c g a a a c t a t t a c g a g t a a c t t t 240

a a a g t t a g c t c c a t a g a t g t t c c a a c a g c c g c g t c c c a c a a a t a t g t a t c g t t c t a t a a g 300

a a a c c c c t a g t c c g a a t g c c t g t a g g a g g t g t a c t t g t a c a a g g a g a g a a a t a a g t g c 360

t t t t t g a a t t c t a g t c a g a a a g c a a a c a c 389

<210> 394

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-C2

<400> 394

g g t t t c a a c a g g a c g a t g c a c a t a t a t t t t g t a t g c c t t c c c a g g t g g a a a g t g a a g t g a 60



aaaatatgtt ggaatttctg aaagatgtat acgacctttt tgggtttaca tttgagttgg 120  
 tgctttctac gaaacgtgaa aaatttatcg gtgagattga tttatggaac atagcgggag 180  
 aggagttgag aagagcttta caggatttca cgggaaaatc ttgcaatgaa aaatactgtt 240  
 ggacactgaa tcttgaagac ggtgcttttt acggcccaaa gattgatgtg aaaatccacg 300  
 attccttaca gaggaacat cagaacgcaa cgattcagct ggactttcaa cgtcccatte 360  
 gctttgattt ggtgtaacac gcacctagtc ct 392

<210> 395  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-C3

<400> 395  
 agcagttcaa ggcccgtttg atgaagcacc taccgtattc gacgtttcac gcggaagaga 60  
 gttttatgga ccaggaggcc cttatcatgt atttgcgtga aagaatgcta gtcgcggttt 120  
 ggccaagact tcaacagacc cagatgatgt tgaaggacct ttggatgacc tttctgagag 180  
 tcaaaaggat gcaactaagcc agtgggtattt gcgctttatg gaaaaatatt agaacatagg 240  
 acacttgaaa gtagaagatg tagccaatgt gaaaaagtcc gattagtatg cgtggcaaaa 300  
 aaaatttttc ttatttgtgt tgcttttagt gcctcgttga ataataaacc acagaggctg 360  
 tcaatgg 367

<210> 396  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-C5

<400> 396  
 gatttgtgat ccaatggatt tggacaggaa gcctcttggt cggtttagcaa cagaggaaac 60  
 ctgttcgcga tatcttttta ttgttaacgt tggaagtaaa tgtacagtca ctagtagaaa 120  
 caagtatgta tcgtggaatt cgagaaagga taggacgctt gagcagagac ccttacgacc 180  
 tggtaaaaag gggaaacaaa agctgccaat ttatttgctt gctgcccaga actgtaagga 240

tcactttaat acagtatata aaggtaccag ggagaatgga ggcggacaag tgtccaaaaa 300  
 ctcttgcga caaattctta cccttgcttc cttttttgca atgtttcttg caaaaccttt 360  
 caatactggg gctgaaatga atg 383

<210> 397  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-C7

<400> 397

gatcaacaac caacgaaagc aagcgagcta ctatttggcg tgtcatcatg agcgagttgg 60  
 ttcgacctgg tcgtttcttt gatagcagct ttggagactt gttttcatgg gcaaccgacc 120  
 ctttttatcg agatatctgg tctatcacac cacgtagttt tgaagggtcaa acatgggtcgc 180  
 ctaggataga ccttgtagag aaagacgact gtttcttggt gaaagcgaa gtacctggag 240  
 taccacggga aaagatcaat gtagatttga aaggtgatat tctaacgata actggggaga 300  
 aggaagacga gaaaaagtcg gatgaagaac gggaaggtag cgtgtatcat agagtggaa 360  
 gctc 364

<210> 398  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-008-Q1-E1-C9

<400> 398

gaatgctggg tggagtagcg aaacaagaga agggaagtaa aaggtaagaa agaggaaagg 60  
 ttacgagag aaggaagtag aaagaagaga gtgtaaggcg gcgtcataat agaaatccga 120  
 aaggagtaga agaaaagaga gagaagaaag aaaagaagag aaaagccgta ctgaagaccg 180  
 acacaggtac tcgaggagaa aggagacca aattaagggtg agagaatgga cgataaggaa 240  
 ctaggcaaaa ggatatggta tctgcggtag aacatatgaa agaagcagca ccgactgttt 300  
 agcaaaaaca cagcactctg cagaaaagag aaaatgtaaa gtataaagtg tgccggcctgc 360  
 caaatagtag agaagaaatc gatgaaagtg acagcgagta aaagatgagg tatanagaat 420

ggcggtccta acggttaagga tccaaaggta gcgaa

455

<210> 399  
<211> 315  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-008-Q1-E1-D10  
  
<400> 399

aggaaaggtg aggcgggagg ttggtaagag attactcatt gtgcttggcc tgaaggagga 60  
tgagcactat ctcggtttct ctcaagaaac ccgatatga ttcctttcta gggtttgttc 120  
ccatacaagg tattggtttg tcaccaagga aactattcaa taagtgttgt gctcgaccga 180  
ggagaacttg gacctctcca accaccataa agtgtatcca agacaacctc catgagtggg 240  
ttcgttgtaa agtatttcgt tgtggagaaa aacatatatt tctaaggcct aacaacaact 300  
taactggggtt ccaag 315

<210> 400  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-008-Q1-E1-D11  
  
<400> 400

cccacgcgtc cgcccacgcg tccgcccacg cgccgcaca ctcttggcc gacacggtn 60  
atgggcgacg agggcggtat gcgtaggaa tcaggtcata gatgtgttct taaggtttgt 120  
tcgcagacag tgaattagtt ggtcacaaac gagtcaatac aaaaagtgtt gtgctcaatt 180  
gatgatagct tggacctctg gggagaccat ctggtgtaag taagatcaca gcgatgaatc 240  
ggttccttgt agtttagttc gtggtagaga aaaacattgt cttcgaggga ctatcaccat 300  
cttctgtact tccaagacac tgtctatcga aatagaccgc caactggatg ccgaattgtt 360  
tcgttctgca ctgagatt 378

<210> 401  
<211> 438  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D12

<400> 401

cccacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccggg aacaatgcac 60  
ctcatactgc tgggttccag tacagacctg tgaaacttat caatgttctc aagagaagaa 120  
gaaggagtac agctatcctt gtcaaaactta tgagcagggt tcaactactt accagtgtgg 180  
tcagtacgag tcccaacaag ttactacca atgccaaaag tataaggagg ttactcagca 240  
agaatgccag tacgtccaag agtcgtattg tgcgagtat gaagaatgac agcaagttac 300  
ccaggaagtt tctccttcag aaattgtcta ctacggtgaa tcttcttcta gcagtagtta 360  
ctactactag aacacttgtg aaatgcgcaa agtcgcaaag tagagtgtcc ttttttgaat 420  
aaactgttac tttttgtc 438

<210> 402

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D4

<400> 402

aagttaaaaa cttattggga gatgagataa tgaaatatca gagagagttg gcgtctgcag 60  
gcggagaaaa tggtatgttg gcaacgaatc gagactcgct gtttgcttgt tcgcaatatg 120  
tggtcacctt tgaaagtggg tctgctgctc aaggcttagt cgcgcctgtt attcaatttt 180  
tagaaagaat ttagaagaat tgtaaaatga atagttatac tttgagtggg ctcttccaac 240  
caacaagggt ttcttattgc gctctattgc gcaagtagag aactacgat aacttttatt 300  
tatggcaaaa gaagtttcaa cgaccactca agtacatctc tccctttttc gtaactaaaa 360  
ctattcttct ttctgttg 379

<210> 403

<211> 363

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D5

<400> 403

gatac gatgg cgttttgttg gtccgttcca gtgcatgcat caccatgtgg caacggaatg 60

gagaaacact cacacatgta caatccagat gcacacgttt catcatacga attcacatgc 120

gtttgcttgt tcgatagaga tggctatagt aacgagtgat agtgtgactg agagcaacaa 180

cgctttggac gcaactgact ttgacaagta cgtgatgaag acatacaaac gacaaagttt 240

atactttaca catggcagtg gtgcatggct ttgggatcaa gatgggcgca cgttggtggc 300

ttttgttggg ggtataccta cttgtagtgt acgtcatagc catccaaagc tcgtggtggc 360

cgt 363

<210> 404

<211> 387

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D6

<400> 404

acgaggtcaa acacaaaagg ttccgaaaca agaaaagaag aagcgtccaa aggggagggc 60

ttggcaaaga ctcaagtaca ataggtatgt tggacctttt ttgtatcata tgttcttatg 120

tgccattgta atcttttaggc gttttgtgag tgttgttggg ggttttggtg agagaagagg 180

tcccaacgcc aactcgtgaa gcgactgcaa tgataaagac aatactttac agcgttaaaa 240

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaaaaaaa 300

ataaagaaag aaggaaaaca aaaaagggct gtacaacaaa aaggataaaa acatcgaaca 360

ataaaaataa aggggggggc ccccca 387

<210> 405

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D8

<400> 405

tgaatcaact caagctgaag aactttcagg caaccggaat ggtccatcag gagatataga 60

aaacctggtt ttactcgatc agcattcttc ctatgaaagt acgattgcta cagcttcggg 120

ctataaactt aagatgttgg tgattatctt tgaaatgggt gtagctttcc actccgtaat 180  
tattggctctg aatcttggag taagcacagg atcgacattc cgtacgttgt ttgctgctct 240  
cgtatttcat caattctttg aaggatttgc tgtcggtact actgtttccg aagcccagtt 300  
tggcacttgg accactatag taatgggtact ttgctattct ttggaaactc caatcggtat 360  
atctattgggt attgggtattg cacacactta tcaggaaaac tcct 404

<210> 406  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D9

<400> 406

tgaggttatc gtattggatg atgtggcggg aaaggagttg agaagtgtag ttgaaaagcc 60  
attgaagccg gtagatcca cagcgcagtc gaaatatcaa ccttttgagt gggataagaa 120  
atggaatgag agtatttttg aggaagaaga acgaaatgaa atgtctgcag tttatcatcg 180  
tgccatacag gaagaagaag aagaagaaga gagacgaggg ttgccatccg ataacaacca 240  
catctcttcc tttcctgaaa cctcgcagga aaaaactgga caaaaggtat cttccaagtc 300  
ccgtgtacat gctaaagacg atccatttta cattacaacg actaagaaga cacaatcgag 360  
atcgcgtaga gaaaagtcta aagtagaagc agacgcgat tcattcgaag actcgttggg 420  
ttttgcgtcg caatccaacg at 442

<210> 407  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-E10

<400> 407

accggttatg gcaacactac gtcactgtag aggccttttg aatcagttcg caaacaacaa 60  
cttggcacta aaaccagatc gattgccttt cttgaataac catcgtgtta gaggaaactt 120  
tacactatct tcgagaggtg ttcagattta caaaggctcg ggtaaagatt ggctcccgac 180  
cttacacgtt gcagttacag gtgctgcagg acaaatagct tactcgttat tgccaagaat 240

tgccaatgga gaaatgttgg gagaagatca acctatcgtc cttcatttat tggaagttcc 300  
tcaggcacta agtaaaactac aaggtgtagt tatggagttg gaagattgtg cttttcctct 360  
tgttcagggg atcgttgccca cagatgactt gcgcaaaggg tttgctgat 409

<210> 408  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-E11

<400> 408

cccacgcgtc cgctaaaatg gatggaatcg actcgaaaat ggcctataaa tagcgtgatc 60  
atttccccctt tttgtttgtt tatcgtttgt caaagtttgg ttgttttctt ggtagcagtt 120  
gtacattcaa catcatcaaa tgccaaaggg aggaaagaaa gattcttcaa agaaagaagc 180  
cacaagtaaa cctgcagcag cagatgctac aaagacgaca gaaaagtctg gtccggaagc 240  
caagttgaag ggaactggtg caaagaaaca ataaaaagtt gactatgcat gtgtaagtat 300  
ttgtggattt tccagtagaa caagctaaag ttgtttctga aggcagtcct gttatgtctt 360  
gtgagttctg tttgatagtt tccagctatt cttttggtag tgaataaaga gaaaattt 418

<210> 409  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-E12

<400> 409

aaaatgtctc aggaatacca gctcacctac ttcaatattc gtggtttagg cgaacctggt 60  
cgtctactat ttgaagacaa tggcatcaaa tactcggaag agagggtaga agctggcgag 120  
cagtggcaaa aactcaagca agaaggtgtg tcttctggca agatccccctt tggtcagatg 180  
cctgtattgc gcgatgggag catgtattta gcgcagagtg gtgcaatact tcgtcattta 240  
gcgagaaaac ataacctcta tggagacacg gaagaagaga aagcgttggc ggatatgac 300  
aacgactttg ccaacgatct tcgaactccg tatgtgcgca tgatttacag tgatacgtgg 360  
aaggagatgt tacccgagta tt 382

<210> 410  
 <211> 186  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-E4  
  
 <400> 410  
  
 tccgagcttt cgactccgta cttattgggc tgaatcttgg aacacgcaga agatcgacgt 60  
 ccagtcctgt gtttgccgcg ctggatatct aacatgtcgt tgaaggattt gctgtcggta 120  
 tgactgtctc tgaagctcat tttgggatct ggactaatat actaatggta ctttgcgagt 180  
 cgttgg 186

<210> 411  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-E6  
  
 <400> 411  
  
 atagactcga ctttgctaga acaactacgg ttttgaaca accaacaaca agacactgtc 60  
 gaaaaagaaa aactccatac tccgaaccgt ttcgaagaaa ccaagtccaa agtagaaaac 120  
 tttttatcca aattaaaaca agaaaacgaa aagctatttc agaatgttgc tcagcacaac 180  
 gtagagggtg aacctcgtga agaaagtttt atagaaatga atatttttat agacaattct 240  
 ttgggacaac ttgtaaaaaa cgaacaagag ttgtcgtcaa gtcaagacaa gccttgata 300  
 gaagaactgt agtcgtcgac aaagtagccc gaaattcttt tcttttcctc tgtccattgg 360  
 aaggcgctgt ttggttgctt ggcgcatata ttcaaaactt aaggtggaat ggggttg 417

<210> 412  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-E7  
  
 <400> 412  
  
 cccacgcgtc cgcaagggtc ctgttggtag ttcgcaacat tatatgagtg tcattgacta 60



ttatttggaa atcgtttttt ctattttgat tccattggca cttattcgta ccaatgcata 120  
 ttttgatcta ttagtaatgg ttgaagatgc tattctgggc tcgtatgac acagcggata 180  
 cgactttttc tcaggaaatc ttacgagata tgcattctgt taccattcga tgcattcatc 240  
 tcgttctagt tgcagttatg gagatgggtg tggctcttta gcgttgctcg acaatgttgt 300  
 ttcgaaccag tcattatcat tatggatata attcttttcc taacgtgata catctttag 360  
 atgaaaagtc atcttgattg tcatagatgt g 391

<210> 413  
 <211> 310  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-E8

<400> 413  
 ggcaagttgc agataaggtc aaatttttct ttcgtatgta ttcgatgaat cgtcataaga 60  
 tgactacgct tacgccttct tatcatgctg agaattattc tcctgaagat aaccgttatg 120  
 atcttcgtcc ttttctgtat aatagtcgat ggcagtggca attttctaag atcgatcgac 180  
 ttgtgtgaca gaaggaagaa acaactaacg atattgctca ttaaatgaat gatatgtttt 240  
 tgtggtgaaa aaaaaaaaaa aaaaagaaat gacgtaaaat caaaataaaa attggtataa 300  
 ataaaatgta 310

<210> 414  
 <211> 82  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-E9

<400> 414  
 agaaaatctt cagtaaactt ttggatgtat ctcatctgag tagcactgaa agtaactgaa 60  
 aataaaacga aaacactttt cg 82

<210> 415  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F10

<400> 415

cctttactga aagtgcaact cctgaggaag aaaagaaaat cgaacgaatt gccagagAAC 60  
gtcctgttgt ggacgtggaa aagttgaaag cttgtcgtag tgcagatgag gctttgaatt 120  
ttttttctta gagaataatc gaggcctttg gtcttttatg taaaggagga aattttggtt 180  
tcgacaactg cctcgtttat tctgtgtgtt ttgtttgtgt gttttggtgt gtttgataaa 240  
tatcatctat tctctggtgg caaaaagaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300  
taaaaaaaaa aaaaaaaaaa aaaaaataaa aaagacaaaa aaaaataaaa aatgaaaaaa 360  
gtaaaaacaa aaaaagcaa gcattaatac aaaaaaggg ggggccccca aaagggttca 420  
aggttaactt a 431

<210> 416

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F11

<400> 416

tgcaagttgg ttggtttctg gactttaagg catctctgtt ctcttggttg tgtgactgtt 60  
ggtagatatt gtgaaagatg ggagtcaaag ttggtattaa tgggtttggg agaattggaa 120  
ggctagttct tagagctgct ttggagaaac agtctgtaga tgtggtagct atcaacgac 180  
cctttattga tttggactat atggtctaca tgttcaaata tgactctgtg cacggcgctt 240  
atccaggtac agtggttagca aagaatggaa aacttgctgt ggatggacac gaaatggcag 300  
tgtttgcctt cctgaccct agtgagatcc cttggtcctc tactggagca gaatatattg 360  
tggaatcaac aggagtattt actgctgcag ataaagctcg agcacatatg aagggaagtg 420  
ct 422

<210> 417

<211> 361

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F3

<400> 417

gaaggacgat gttctcttcc atccaacttt gactgtagtt attgttacac tttaggacat 60

accgctgggg ccttgattga aggtggtcgc actggtcttg ttgcaacggt acgtcactta 120

acaaaacctc ccgaccaatg ggaaattgga ggttaccctt tgaccgtcat gatggacatc 180

gaaaggagaa cgggaaagaa cgttcccgtc atcaaaaag cgttggtgga tttgaaaggc 240

gaggcatttc gcatattttc tgagcagcag gactcgtggc gtttgacaga agattatcgt 300

tgtcctgggc ctattcagca tttcggtcg atggcacatt cgatgaactt cactttgatg 360

t 361

<210> 418

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F4

<400> 418

cgggtactgga tgcttcttaa ttgtaaacac tggagaaggc gaaggacctg ttccatccaa 60

gcatggtcta ctgactactc caggttatca gttaggacca gacaaacctg ttgcttatgc 120

actggaagggt tccatcccta ttgctgggtgc agcagtacag tggcttcgtg ataacttgca 180

aatcatcaag accgctccag aaattgagga gttggccaat tcggtgaagg ataatggtga 240

tgttttcttt gtaccggcat tttctggttt atttgcaccg cactggcgtg aagatgccag 300

aggtgttatt gtgggtctca cgcagtacac taccaaagca catattgcga gagctgtgct 360

ggaagctgta tcgtttcaag tatg 384

<210> 419

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F5

<400> 419

accacgcgt cgcgccacgc gtccggtgag aagttcaatt ttggttggtt ctccatttta 60

ttccgcacga gatgttcatt ttacatgcga tgtttattag gaactcgtgc gttcttgggg 120

tactatcgac gtttctgaac gaaagtattc catcgatgaa gtggtacaga gaatatctca 180  
aggagaagtc attgaagcgt ttgggttcagg tacagcttcc atcatcacac ccgttactgg 240  
aattcattat caagacaaaa tgtattccat tgtctcagat acagaagaga aaatatctcc 300  
aaagttattg aaaagcatgc aagacatatt ttatggtgaa gttgaggaca cattttcatg 360  
gaatgtggaa gtggatactg aataaataaa 390

<210> 420  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F6

<400> 420

ggagagccga ataccagcac cgctattaca cctggagaag gaaaggatgt ttctttgtct 60  
tccccaagaa gcagcaatcc tgaacaatg aatgcaaata gttgtcatgt agaaacaaca 120  
acaaaggatg agagtagcca tgttgttcaa gaagaatcca ccgagacaaa gtcccatcga 180  
gaacaaatat tagaggaaga aatagaacgt ctcaagagca aagttgccag tttagaaacg 240  
gaagttagcg atttcagca agacgcagaa aatgaacgtc gaaagaatca tcaattgatg 300  
gaggcgaaaa agtattttgga aatcagtttg aatgaagttt tacacgcctc caaaagcaca 360  
tctgctgagg agatggag 378

<210> 421  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-F7

<400> 421

gctgtgcgtc tatttgaaca aagtggatc gaaatggttg ttgctcaaag ctttgcaaag 60  
aatatgggtt tatatggaga gagagttgga gcactttctt ttatttgcaa ggatacttgt 120  
ccagttgacg ctgttcaaag tcaattagaa actattattc gtcctatgta ttogagtcct 180  
ccagccaacg gtgcgagaat agcttgtaga attctaaatg atcctcaact atttcaagag 240  
tggaacagg aactcgtaga aatgtcagca cgtatccaaa atatgagaaa gttgttatat 300

gaagcttttag tttccagaaa gactcctggg gattgggtcg atattacgaa gcagattgga 360  
atgttttcct ttactggact gaatgcaaaa c 391

<210> 422  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-008-Q1-E1-F8  
  
<400> 422

cggacgcgtg ggcggacgcg tgggaggacg cgtggggtag agtatccttg ttgaatgagc 60  
gccatggata tggtagaaac ggttcttccg agagccacca aagtctgtat tgcgggggaat 120  
aacggtacaa gaccgagtct tgttgggtcag ttgggggtata tcaagtcggg acaaagtctt 180  
ggtggttggc atgaagtagt gttagaagta agtgattttg gaataaaaaa gatagagtct 240  
attcaatata tgcttttttg aaaggatgga gaagaactga gactacagcg gaatgcactg 300  
gaagttgtat atgacgatca tgggtgtcctt attacagtgg atatccctcc tgagccaaaa 360  
tactcgcaac caactgceaa caa 383

<210> 423  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-008-Q1-E1-F9  
  
<400> 423

cgtcgtacaa tgctgagaag ttggttgatg caggctttaa gcatcatgac tggccctttg 60  
aagatggtgg agttccctct gtggaaatta tacagaagtg gctttctctg ttgagttgtg 120  
ttacggataa ggaagcatcg gcgaagacta tggagaaatc aggactgcac gctaccaata 180  
agttctcttc ttcaatttgt ggagatagtg caagtgcgaa tgatacctcc aaaataagta 240  
tcgcagttca ttgcaaaaca ggtttaggac gagccccagt tatggttgcc atagcgttga 300  
tcgagatggg tatggatgca cttgatgcta atggctatat tcgtgctcgt cgccgaggtg 360  
caatcaacag ccgccagctt ttattcttgg aacagtacag accg 404

<210> 424

<211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-G10  
  
 <400> 424  
  
 cccacgcgtc cgccccacgcg tccgcccacg cgtccgccc cgcgtccgcc cagcgcgtccg 60  
 gtcgaacact gcttttgggtg aagtgttctt cgtttcttgt gaaacttttt gtttagcaaatt 120  
 tcaaataatc acctcttttg tttgcaagtg gttgtgttag cgggtacttgt ttgtttgaaa 180  
 agaacaactg ctttgtttct tcttgaaaca agtttcttgt gaaaaaaaga aaaaaaaaaa 240  
 aaaaaaaaaa aaaaataaaa taaaaaggaa aatcaaaaaa aagtgaaaaa aaataaaaga 300  
 aaaatcgaaa caagcgcctc atctgccggt ggaagaactt tatcgggtgac attcatgtgg 360  
 aagagaattg aacatgttcg tgggtactttc gtgaacaatg cccttggttaa ttacttg 417

<210> 425  
 <211> 328  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-G11  
  
 <400> 425  
  
 gttatgactt cgcaccaatg atcagaagat acatactaac tttcgtagcc atcaattttg 60  
 cgagaccatc ccagtttttag tagactatat ctcggactca aagccattgt gttgtccatg 120  
 tatggaacat ggatagtacc ccattgggag ttaactttgt ccaatgcctt cgtgggaaca 180  
 ttatttatcg cacttcctc tagcttccaa ctgtaaccag attagcaaatt aatatgatct 240  
 tgtttgaacg caattgggtc tggggacca gaccttcagt ttcaggagtt cttaaagtgtt 300  
 aagtcaaaat ctctcgggtc ttctggcc 328

<210> 426  
 <211> 346  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-G12  
  
 <400> 426

cccacgcgtc cgccccacgcg tccgcccacg cgtccgagtt atcctcatat gaatttagtt 60  
 ggttttgttc actacagggtt tactatcgaa aaccaagaaa atgttcttta tatttatgag 120  
 ttgcatattg tcgatggata tcaaggactt ggtattggaa agaaattggg tcaagtcttg 180  
 gaaactattg gggttcgaac aaaaatgaaa aagatcatgt tgactgtatt taaaagaaat 240  
 gtggatgcag ttcgatttta caaagaaaaa cttggggttt ctttggatgc atcgtctcca 300  
 gaggtttttg gagacttgga atgcaaatat gaaattcttt caaaac 346

<210> 427  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-G3  
 <400> 427

cccacgcgtc cgccccacgcg tccgcctgtt tttgaatccc caaactcagt atataagtga 60  
 ccaacttgat gttgcaataa cagctccaat attttgcaat tgtgctagtc gggttgttga 120  
 ttcaagtagc aagaattccg tggagttgag acgagatccc aacgaaatcc aactttcaga 180  
 ggatgatgca ttttagaact tgatgctgat tgttattatt ttgtgttgta tgcttttggc 240  
 gtgatatata gatgagtttc taaaatatag gcttcactgg gataatatatt actttgccct 300  
 agaaatatcc acatatatcg agaccacacc ttattccaac acacaagttt agtgagttgg 360  
 agcactttca cggtggttcc caa 383

<210> 428  
 <211> 366  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-G5  
 <400> 428

aattccttcc agcactattg gaaatctttt atagaaaggt gctttgtgtg agagaataga 60  
 aagactttta tggaaaagga acaaataaaa tataatgata cgacaacagt gaaaaaaaaa 120  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa ggatqaaaaa 180  
 aaaaaaaaaa gggcgacccc aaaaagggtt ccaaccttac ttacccttac agttcaagtc 240

catagctctt caatcatgtc acttaatttc actacatcgg ccttcttata aaactttcgt 300  
aactggaaaa aactgcctt tacccaattt aacctccttg caccaaagcc ccctttaatc 360  
agccgg 366

<210> 429  
<211> 343  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-G6

<400> 429

ttgttgcccc cccaaaaccg ttgcgccgg cctccaagta taaaattcct tgggtggtac 60  
aatttgagta tataaaactg ggatgagaac acagaaacaa catattatga gcgtttgtag 120  
gtaccagaga gaaaagggtg ttttcaactg tttattttcg atgaccacgc tgcaaccgta 180  
agtatgtagt gtaaacgcgg tagttttgta gttttttgtg ttctgtgaag cctgtcgcat 240  
tacagaaagt gacgagatac gtggatttgt aatcatattt gcattgttca aggaaacttc 300  
actgttactc tgaacaagtg gttatagttt tcgacttgcc agg 343

<210> 430  
<211> 372  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-G7

<400> 430

acctccaac ttttatgacg gcaggactat gtttcctgtc tggttgcacg tttattccaa 60  
agagagatat atcatacaaa aagtttattc acccaactcc ttcttcatta cttgataata 120  
gcttgtgtga acgaaaactg aaaacctgtt ccaacattct ctatcggata cgagcccaac 180  
aacagacaga aggaaaaaaa gaagaagaaa gaaaccaaca actcagtgat tacgagtttg 240  
cagaacgttg tatggatggt ggttgccctg tggaggatgt tcaagaactc ttggttcggt 300  
tagaggtaag aacgagtcaa tttacccttt agggaatact tgagcaatgc gaggaataac 360  
atggaataat at 372

<210> 431



<211> 334  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-G8  
 <400> 431  
 cactgacttg gtgtatgaat tggaggttag gctgtgtgct tggttgtgct attcatcgac 60  
 gtagttatat tcattcttgt agttgttgct atccatgcag caaccatcca atgaacgatt 120  
 cattttcagt atcaatagta gtaatatgtt ccaagtgggtt ggagtgggttt cttggatact 180  
 ttcatagcta tgttgacata gtggaagaga taatccaaga tatatttcca agtaaatttc 240  
 gcggacatga acgcattcat tgtgctattc aatgtgcaat ttgtaagcca gatggtcacg 300  
 tcttgtgaca tgcaatgtaa tattccaatg ggaa 334

<210> 432  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-G9  
 <400> 432  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccgcc cacgcgtccg 60  
 cccacgcgtc cgggaaaggg accttttgta gtggaaagtg ttacttatcg ctatcatggc 120  
 cattctatgt cggatcctgg gttgtcatat cgttcgagag aagagattac ggaaatgaga 180  
 aaacgtgcag atcctatcga gttggtaaaa tccagaatat tggaacaagg ttgggctaca 240  
 gaaaaggagt tgaagtcgat tgaaaaggaa attcgacaac aagtggatga aatgacggaa 300  
 aaagcgaaac aagcgctct tccgccgtg gaagaacttt atcgtgacat ttatgtggaa 360  
 ggaattgaac atgttcgtgg tactttggtg aaca 394

<210> 433  
 <211> 369  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-H1  
 <400> 433

cggacgcgtg ggcggacgcg tgggggtttg ggatattttg caacaacatg aacaaaattt 60  
 ctctagtctc ctttctatta tttggagttg tcatatatgc agttgcagga cctctcaaag 120  
 actctcatat agcttccaag gttagaggat acagcagtca atatactcca acctacacta 180  
 gcgagtatac tccaagctat agtagtgaat acactcctag ctatagcagc tcctatagtc 240  
 cagtttattc ttctccttat caatcctcat acagtcctac ctataaaaact tatccatgga 300  
 ttcaaccttg tgctcaagct tgtgcgggat gtctttactg ctatcaacaa tacaatttct 360  
 attatccct 369

<210> 434  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-H10  
 <400> 434

cccacgcgtc cggattttca agaaaccatt ccacccaaac tcgcataaca tcttttgata 60  
 gagaactctt ggacttgaaa gtacaacgtg acaacttgca acaatatgaa caacgtttaa 120  
 aagactcttt gacaaagtat tacgagcttg cacgtcgttt ggttacacaa aaggaacgtg 180  
 agcgggcatt ggtagttttg aaagtgaac atgcgttaca aaagagtatc gaacaagctc 240  
 aaaatatgcg tttcaacctg gagcaagttt tgagtgaat agaattgaag caactggaag 300  
 ccgactatgt acagaaactg aaaacgggaa caaagttatt acgagacatt cagaaaacct 360  
 tgt 363

<210> 435  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-H11  
 <400> 435

gagaagaatt tgaaatatgg gaaagattgg acgactaccc taagatatcc cgagataatg 60  
 aaagcaccgt tgtggacctt acgggttttg ttccaggaat gatagccgaa ctgatcgga 120  
 tgagtcgcag ttttccctaac ttgagtttcg gggaagtggc cgcgcgggtt tatgaagagt 180

gttatgcaga tatgcaaata gtacacagcg agtatatcaa gtcattgacg catgaagtgg 240  
ataagaaaca gctttatgac gggcttcaca agctctttcg tggtagggaa actccggcaa 300  
ttacattatt tgatgggtgcc tatcgagatc gaggtctctt gatagcaatg aatgatggat 360  
ccttacaatt ttacaacagc ataacatgt 389

<210> 436  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-008-Q1-E1-H3  
<400> 436

cccacgcgtc cgcccacgcy tccggttgcc taaggttgtg gatgaacaag gtcgtagtta 60  
tgggataggt gctagaaaaa cttccacctc tgaagtttgg ttgaaagctg gcacaggaaa 120  
ttattttgta aatggaaagc caatgattag acactttcga gaaattagac tgattgaaga 180  
agcactggaa ccactattac actttaatat tgctcaccaa ttcgatgcgg attgctttgt 240  
agttgggtgga ggtgaatcag gacaagcagg tgcgctgaaa cacgggattg cacatgcatt 300  
gaaacttttt gaccccgctt actatccaga actgtataaa ctcggttact tgctacgtga 360

<210> 437  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-008-Q1-E1-H4  
<400> 437

tcagggtcga cgcgacgcgt cagcccacgc gtccgattga aagagagaga gcaaaaagta 60  
tgggagtgtt gtaaaatgct aagttttcta actcgagcag cttgtcatt gcgtgggtgta 120  
atgcaaacag tcataaactt tcggaccgca aggggagtag caacgagact ttatcacgaa 180  
aaagtagtcg accattatga aaacccaagg aatgtaggtt ctctagataa aaacgacaaa 240  
tatgtgggaa caggtctagt ggggtgccct gcctgtggag atgtcatgaa gttgcaaata 300  
cgagtagatg agacagggaa aatagtagaa agtaggttca agacatttgg ttgtgggttca 360  
gcaaacactt caacttctta tgcaaactag tcattcaaaa caattgggtt caaaaaggca 420

attaaaatta ggaccaagga aattgcag

448

<210> 438

<211> 367

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-H6

<400> 438

cccacgcgtc cgcggaacgc tgggggaaca cggaggacga cagtagcgat gggattgttt 60

agtagactgt ttgtgaaacc gagtcgtgta ccgcaaagag tcgtagagtt tcaaaagcgc 120

aaggcgaag gctactttac atacaacgcc gggaagtacg accgatacat caacacacct 180

atttacctgt ttgtgtcctt caccggtctt tatgccttta ttgacggttg tctttgggcg 240

gcaggaaaga aggaaagtca atcgtgaata gcgttttttg tccttgtgga cagtcttatg 300

aactagtgat tcgtttgttc tgccagtttt agtttcttgt aatgaaagtt tccttttttt 360

tccttgc 367

<210> 439

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-H7

<400> 439

ggcacaggat tcctttcaac tattcctgca atatatctga tggaccgact gggacgtcga 60

ccactgttac ttactctcat tggcggagtc gtggcagggt tattttattgt tggcttttca 120

ttccttgctt ccaatattca caccaaggaa ggtatctata tttggggcgt tgtcatctat 180

tatcttttct ggggttctgc tctaggcca actccttggg tggttgcttc agaaatttat 240

ccaacctatt tacgtagtca cggaatgttg ctatctgatg ttacaaactt tacaggcaac 300

tttattacta catacgcat caaacatatg accaatgcaa tgacgaatac aggtaccttt 360

gttggtttct atggaggtc 379

<210> 440

<211> 380

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-H8

<400> 440

gaaatatcag agctgcccta cttatatcac gcagccaact atcataccca agtactgcag 60  
tatgtcgggc cctgaagagt atgttcagca acagcaatgt gtaaagtatg tagcccaaca 120  
agttaacgca accaaacaat gtgtcaagta ccataacgag caaaagattc aaaaaagta 180  
ttgggtccgc tatgttaact gagaaaaagt acaaagcaag cagtgcacatca agtatgtatc 240  
ccttcagaaa gatcaagtac gagtcattgct ctgctcaata tgaagttcaa aagatcaagc 300  
agcaacaatg tactatgaca gtctctgaac aatacatata gcccgatact tgctacaagt 360  
atgtccctga acaacaattg 380

<210> 441

<211> 433

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-H9

<400> 441

cccacgcgtc cgccacgcg tccggtacaa gttgtgtcgg gtaaagagag cacaatggg 60  
tgtaggtgga attccctaca tcgcaacgca cgatggtcgc accattcggt atcccgaccc 120  
cttgatcaaa caaatgata cgggtgattgt ggatttgga acgggaaaag tgaccgattt 180  
tctcaagttt gaagttggca atttgtgtat gattaccggt ggacacaaca ttggaagagt 240  
tgggttgatc cagcatagag agaaacaccc tgggtcgacg gaaattatcc actttcgaaa 300  
tgcgagaggt caagagtttg cgaccaagtt ggcaaatgtg tttgtgattg gcaaaggtaa 360  
atagccgttt gtttcgttgc cgaaaggtaa atgcattcga ttgtctattt tagaagaaca 420  
cgaaaagatg atg 433

<210> 442

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-A10

<400> 442

accacgcgtc cgcccacgcg tccgcgatga gcaatcctct gcatcggcag ggtttcgtcg 60

ggacgtactt gttcgtttcc caacaaccaa ctatgtttat cagttggctc tccgtctctg 120

ttgctgctgg cagtagaaca cgtttgcac ggtcaacgct tgataggaag gtttgccgat 180

gtttttgtcg aaaccggtgg aaacataata ttcaagtatg aacgcatatt tagtcttttt 240

cgctaaccta agtccgcctc gagagttgca attgcaagc cgcgacgggg aagaccggaa 300

aaggatctaa agacggagca ggtgcaaccc acggcggaac gagtcgaaaa ttggaagcct 360

aaccctttgc ttctagccgc tggtaacaatt gctttagcgt ctgctggagg atac 414

<210> 443

<211> 401

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-009-Q1-E1-A11

<400> 443

acgcgtccga ggacgcatgg gcggacgcgt ggggtgaaaa cgagttgatt ctgaaaacaa 60

tattttttatc tgtgaaacca aaatgctatg gttgggatac tgctccatga tattattcag 120

gttgaatcca actagcgaga gcgaactatt ccaagcttgt tggattgat tgaaaggctt 180

gatgactttg caacagtaac cggttgggac gaaattcaag aggaattttg gaaagtttga 240

tacctactcg tgaacacaaa tactgaagaa tcatgtaaca atgcagtgtg tgtttattac 300

tttcatagct aatttagagg aaagtgtaac agttgaattt gaccagtcct gtcgtttttt 360

attcttttat agataaactt ccttaagatt ttgatcttcc t 401

<210> 444

<211> 393

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-009-Q1-E1-A5

<400> 444

cccacgcgtc cgcgacgcg tgggcttatt gtccggattg gtggcgattg ggaacgagaa 60

aggcgtcgac gacgaaagaa gatcgctgta ggaacaacga cataaaatgt ctgttttatt 120

acaaagttcg gatttccaac acattcttcg tattctgaat accaacattg atggcaagag 180  
gaaagttatg tatgcgttaa ccgccataaa ggggtgtgggt agacgtttct ccaatttagt 240  
cttaaaaaag gcggaggttg acctgagtaa gcgtgctgga gatttgacgt cggaagagat 300  
tgaccgcata gtcaccatca tgcagaaccc ccgacagttt aaaataccag attggttcct 360  
caacagacaa aaggatttga gagacgggaa ata 393

<210> 445  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-A6  
<400> 445

cagctcaatg gcggagaaag gactgggttg tgtgataggt gcaacgggtc cgcttgga 60  
agaatgcgtt ctggcactgg aaagtgaagg atatcgtgtc cgtgcagcaa gcagaagggt 120  
tgaaacggct cgtgagatgc tactccacaa ggtaaagaac ccttcgagag tggactttgt 180  
ccatgtcgat gttatggaaa aatctgtact ttctagcgta ttaaaggatg ctgaagtgg 240  
tttcttctgt gcttcagctt ctgcagggtg gagagtcctt ggtacttcta agaacacccc 300  
gaaacaggtg gactacttgg gcgccattca tgtcgcacaa gcggcagccc aagctaa 357

<210> 446  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-A8  
<400> 446

acaaccgtca agtggagcaa cgactgggtg gttgttggtg aaggagcaca agtgttgc 60  
tgttgttcaa tactgtttgt aatagtagca gtgagagtat catgacgagt agtaacagt 120  
gtagtgctca tcaacaagcc aaggattggg tggagtccat tagcaaaaat gagtggacaa 180  
agcctgcagc tgctgtggca ggaactttgg cctccttggg actgataaga atgtattcta 240  
atggacctgt atataaaaat tccgtcaact tgaagggcaa agtagttgta gtgacaggtg 300  
ccaatacagg cattggaaag gaaacttcta ttcagttggc aaaaatgggc gccactattg 360

tgatggcttg tcgtgaccca tcgagagctc

390

<210> 447  
<211> 328  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-A9  
  
<400> 447

actggaaaag gctttcttaa tcatcaacag aaacaaaagg ctatgcgttt ggcacgtaaa 60  
gcaattcgtg gaataagtaa aaaggataga cgcaaaggag aatctgaccg aacaatttat 120  
aatgaaaacc ctaaacattt acttgctgga aaacgcaaat tgggaaaaac ccaacgaaga 180  
taaatacataa atgttctagg cagcaagtgg cttggcaggt aatatttttc cttggcattg 240  
tccaaatcca atacgaatat ttctacaatg attttgcaca acaaaactca gcattagaac 300  
agtagaaaat aaaatagcgt gcgcaact 328

<210> 448  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-B1  
  
<400> 448

agttttaatg gtgttgcaaa ccacatcatg tcacaacaac cgtcttctgc acttcgagtc 60  
gttgatttca gtaccaaga ctatgatcaa agtggattga cagaagcact tgaacgtgtt 120  
cctaattgctg ctactataaa gtttcggttc ttatcgtcca ggttgtctgc aaatacagct 180  
gagcttgcca aagatgcaga cgctgtttgt gtttttgta atgatactgt gaacaaggaa 240  
gtattgaaga tacttcacga cagaggagtt ggtttgatag ctttgcgttg tgcaggcttc 300  
aataatgtcg atttaaaggc agcttccgag ttgaaaattc ctgtgggttcg agtacctgcc 360  
tattctccta atgcagttgg agagtttggt gct 393

<210> 449  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-009-Q1-E1-B5

<400> 449

agtgtgtggt actttggatt ggggacaact gagtttttat tatgggtatc gatctcgaaa 60  
aaggaggtcg tattaagaag cgtaatagaa ctgcgcccaa gtcagaaaac cttacctgc 120  
ttttattggt caagctctac aggttccttg cgcgaagaac caactccagt tttacaaaa 180  
ctgtattgaa gcgactttat atgtcacgta acaatcagcc acctcttggt ttaggaaggt 240  
tggtgaagct gtctcgcaaa aatgccgaca agatcatcgt cgctcgtgggt aaagtcttga 300  
atgatgagag actttatcac gttcccaaga ttactgtctg ttgtttgaag atttctgata 360  
gtgcaagagc gcgtattcaa aaggctggag gagaagtttt aacct 405

<210> 450

<211> 443

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-B6

<400> 450

acgacgttca agcgtgcgag tttgtggcaa cgtacacagc tcgatagaaa ctgcaaaagt 60  
tatctaagaa acttgtcaac agcacttgca tatcgctttg ttcatatgag cagtccacaa 120  
gactcagcta gtatgaataa cttcaatatt gctctttgtc aaatcctatc cacggataat 180  
aaggaggcaa atatagcaaa agccgtggag gctatagaga aagctgctag aaatggagcg 240  
aaacttggtt ttctccctga gtgtttcaac tctccttacg acaatgctgc atttctgtt 300  
tatgctgaag aaattcctga acccgagag cacgtatctg aaaaattcaa aacttgtttt 360  
gcactgtcag aagcagctaa gaaatatcaa gtccaactat attggggggc tcattacctg 420  
aaagggatgg ttcaaagttg tac 443

<210> 451

<211> 241

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-B8

<400> 451

acccacgcgt ccgcccacgc gtccgcggac gcgtgggcgg acgcgtgggt cctgttccag 60  
 ccttggttcc ggcactttct tagtatgaca gttttcgcca agaaatactt tcaagtagtc 120  
 aactaatata agctcaacgt gactatTTTT gagcgcatac ctataaaaga ctggataaag 180  
 aaggggtatt tcatagcaag tggttgtgag gtaccgctct tctttatTTT tactcaacaa 240  
 a 241

<210> 452  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-C1  
 <400> 452

caacaaatTT aaaggTtccc ccgggaaaat aattccaatt ggcggttaacc ccaatggTgt 60  
 caaaaaacat tgactTTtaac atacaaaacc aataatattg gcaacattaa cactggaaaa 120  
 accttggaag aggaattcaa tacccttTgt cccaggtTg aaaaacctgg cattgcacca 180  
 tttgatatga acctaaggTc caagttgtTg cctgtgaagg aagaactgca cttcattgca 240  
 gcgaacaagg agttttacggT aaaaatgttt cacaagaagg aagaaaacaa agttacatat 300  
 gttgttcgtg ctggagaacg tgtacaggga ccgccaggTt atgtccacgg aggtgctatt 360  
 gcgacactat tggacgattg tcttggcaat gctgtTTTTT tgaaccgggc cct 413

<210> 453  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-C5  
 <400> 453

acccacgcgt ccgaagagaa gagagaatgc tgggtggagt agcgaaacaa gagaaggga 60  
 gtaaaaggta agaaagagga aaggTTtacg agagaaggaa gtagaaagaa gagagtgtaa 120  
 ggcggcgtca taatagaaat ccaaaggag aagaagagag ggtaggctta gaagcagcaa 180  
 accagagagg aaagcgttaa agcatgaaag aaaagaaatc cgaaaaagaa gagaaaaagg 240  
 taagaaagag gaccgaatca gggtgaagg tagaggagca agaagtatga ccagtaatg 300

aggagtggag taaacagaaa aggaagtaaa aggaggggaat gaaggggaagt tatggcaaaa 360  
acacgtgccca gcagcagcgg taaaa 385

<210> 454  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-C7  
  
<400> 454

accacgcgt ccgcatgaac gcttgccagg tattacagaa acagccaaaa tatttgctgg 60  
tgtggatgtt acgaaagaac ctattcctgt tcttcctaca gtacattata atatgggagg 120  
tataccaacc aactggaaag gacaagttgt gacgttaaaa gatggaaatc caaatagtgt 180  
tgttcccggt ttatatgccg ctggagaagc tgcttgctgt tcggttcacg gtgcaaata 240  
attaggagct aattctttgc tggatattgt tgtctttgga agagcctgtg ctgcaacagt 300  
tgcagaatta tataaacctg aacaaaaaca acctccttta ccggcagatg ctggagaaga 360  
atctatagct agattggaca aatatcgaca tgcaaa 396

<210> 455  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-D3  
  
<400> 455

accacgcgt ccgcgacgc gtgggggagt ttttaagagg catcgacaat cctatcggca 60  
tcaagtgtgg accatctttg gcagtcgatg atttacttcg tttgttgatg attttagatc 120  
ctgataatga gcctggacgt attacactga ttgttcgtgt tggagcaggt cgagttgccg 180  
aacatcttcc aagggttgta gaagcagtc gcaaggaaaa tagacaagtg gtgtggagtt 240  
gtgatcccat gcatggcaat atggaaacat ccaaactctgg ttacaagacc agaagatttg 300  
agaatattct gtcagaggtc aaagaatttt atgaaattca ccgtcaactc cattcctatc 360  
cgggtggaat tcatttgga atgactg 387

<210> 456

<211> 407  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D5

<400> 456

aatttgactg gggtttatag aatatgacct ttcgatattt tctccatgca tgtacaacat 60  
gtgtacataa atataccaac tttgtttgaa aacatcttta tggaccagta actgttggaa 120  
tgctctcccc atcaaaagac taggacttgg tccaagcaat gattgtggga gaaatattgt 180  
ttccattagt tgcttgggct tcagtatagt tgggtggaggt atcatgtctt tttgtgtaca 240  
agtgc aaact ttccacctac cttaccttga aagggaacaa caatagggtt tctttttgta 300  
caagactcga acaagttgga aatgtacgag catcgttatg gaatagttgg tagcacaagg 360  
ccaaattgga ctagtttgta agcttgacta ggaagggttc ttttgga 407

<210> 457  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D6

<400> 457

accacgcgt ccgattcgga gggaaatgag aaagttttgg gcatctttgc aggtgttttag 60  
cttacttttt atagtcttgt tgtttgata caaaaatttg tatacaagtc ccagtcgaa 120  
gaagagaaaa gcaagcaaca tagattactt tatagaagct gctaataccga ggattgggtca 180  
tataacacct tttattcacc agtgtttttt taacgacaac ctgtcaaagtg ccccttctgt 240  
atattcagtc agtaaattctt cgtaactag gcataatccc aactttttgt atcacttatg 300  
gacggagtca gaggcagaag aacttatcaa cagggtttat cccggtcttc aacaagtatg 360  
gaggaaattc aacgagtcgt ttgttt 386

<210> 458  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D7

<400> 458

aatcgattgt tgaagaagag aggacgagag agtgcctcta ccgctaagaa tatctcgtca 60  
tggttggagg tttagagagt aaaagaacaa agcgcaagag agaagataaa actttacagg 120  
aaaaccttcc caaggactgg ttttgggtat ggtggccaga ctcggttgg tggaagttc 180  
gtataacaga ggtagaagaa gaagagtggg attggccagg gacacaagag cctttggata 240  
ccccgatttt gcctctaact atttcttacg acagccataa aactgggaat acttgtttca 300  
ttgaacaagt attgtggcat gatggagtgc tttatgacca agaaggggaa gaaaagataa 360  
gttattgctt gagtccgcca c 381

<210> 459

<211> 434

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-E11

<400> 459

acgcgtccgc attgtagaat ttttctgttt cgtttacttg tctttttgtt gagttatcat 60  
ggcacgaaca aaacaaacag cacgcaagtc taccggtggg aaggcacctc gaaagcagtt 120  
ggcaaccaag gcagcaagaa aatccgcacc cgtaactgga ggagtgaaga agccccatcg 180  
ttaccgtccc ggtactgtcg ccctgagaga aattcgcaag taccagaaga gcactgaact 240  
tcttatccga aagttgcctt tccaaagggt gggttcgtgaa attgctcaag actttaagac 300  
ggacctacgt ttccaaactt cggcgggtgac tgcccttcaa gaagcctcgg aagcatactt 360  
ggtcggtttg tttgaagata ccaatctttg cgcaattcat gccaaagcgtg taactatcat 420  
gcctaaggat attc 434

<210> 460

<211> 425

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-E12

<400> 460

gggccacgac gcgtccgaag aaaacttgta ttgtggaaaa ccaattgagg gaggggaaaa 60

agaaaactcga tagtctagca gacaattatt cgttgggtac gagagcctat gatgcgagaa 120  
 tgtgggtcatt ggacctcatc gcaactatta tgagtgtctg ttttgcagtt tttggaatgt 180  
 tttcacaatt ctttgggtat tatgtccaat tgcccattta caatatggga aatgcgagtc 240  
 aatattactt ttatggcggtg atgggaggtg tttccgtcgg cctgtcgcgc agcgtctatt 300  
 tctctacgcg atgggtttctt cgtcactttt ctcagggtatt ttgttatgac ggtacaggac 360  
 aatagtggtc ataaaaattc ccttggtttt ttgttaaaaa aaaaatactc aatatacccc 420  
 gttag 425

<210> 461  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-E5  
 <400> 461

acccacgcgt ccgggacaat ggaaagtaac ggtgggtggtg gtggtactac gcgtctttct 60  
 tcttcttctt atgggttggga agcactcggc aaagaagcca gacgcctaga aagtgaata 120  
 gactccaaat tggtaaccta tgcaagtttc acgagagcag aatcgagaaa tagttttgct 180  
 ggaaacaaga atgtgggtggc agacgaacaa aaactatccg ccgatttgga acaattggtg 240  
 aaaagactag gacaagtga tgaatcgatg ggtcgggttct tcgcttcgtc caacaatatt 300  
 agcttgagtc aaagtcacgc actggaacga caccaagaaa tattatccga ttatatccaa 360  
 gaatttcgaa aaagcaaggc tgcttttcga agttgggttg gaa 403

<210> 462  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-E6  
 <400> 462

acacacgcaa ttgttgaatg ccggtcaagt tttgtaaaga atgcaacaat atgttatatc 60  
 ctatggaaga cagaacttat cttcatgaaa ctggagaaag aagaatgtta tacgcttgct 120  
 gtaattgttc tcacagagaa gttgcagaag acttgggagt tccagtttac cgtaatgtgg 180

taacttcgaa caacagagga aagtttttac aaatgtacga tgtgtggcctt gaccctactc 240  
 tacgaagaac acgaagtact cagtgtctctc aatgtggaaa ccgtgaagca gtttatttta 300  
 tgggacctgt tggacgtaac gatacagcaa ttgttttata ctttgtgtgt actaattgta 360  
 agcatcaatg gtcaactgca g 381

<210> 463  
 <211> 324  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-E8  
 <400> 463

acgagaacga atatctatatt ttacgtgac ttatttgacg aaaagaaatg tgaaagcagg 60  
 tagcgcttcg aagttttag aatttcttac ttttgacaac tttcctgata agatgaagcc 120  
 atttatagat gttgggcaga agtacgaag gaggcacaag tcacaaagtc gacgtccggt 180  
 caaacgtaca gcatctgaag aaacttcaga gttgaatgtc gatgtataga cagccgctag 240  
 ctgtcttaac ggtccttatt cctgtaatgg aataacacac ctgtcattta cactggaata 300  
 aacagtcttc tagttgtttc ctgc 324

<210> 464  
 <211> 185  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-009-Q1-E1-F10  
 <400> 464

gtccaccgac ccgtccgaat gaaaagcaga gatctctaaa gaaaggcang aaagaaaaga 60  
 aaggaaaaca cattaatga ggcaaaaaac cataggaatt gaaacggatt aggaaccctt 120  
 gtattcaatg cattaagaaga aagaatgatt angaaaaaag gaattcattc cacaanggaa 180  
 ttaaa 185

<210> 465  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F11

<400> 465

cgcggtccgag gacgcatccg cccacgcgctc cgcccacgcg tccgagtatc ggtagaacag 60  
cctgtgtatg aggttgaaaa gaagaccgca gaatatgaga taagaaagta cccagctta 120  
agaatagctg aagttcatcg ttcagactgg aaaaaagaag aatggctcgg catacgactt 180  
tgagtcgcaa gcatttcgag tgttggcgctc gtacattggg gtatttggag aacccaaaaa 240  
caaagatagc tccaacacgc atgttaagat agcaatgaca gcacctgttt tatcacagcc 300  
cataggggtcc gtggaaacaa gaatggacga cagcagtcta gcgtttatat tgcccaagga 360  
gtatgcagag caacaagaac ctccacagcc attagacca cgagttcact tgcgtattgt 420  
acctgtcaga aa 432

<210> 466

<211> 444

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F12

<400> 466

ggtcgacgac gcgtccgacc acgcgtccga ttttttgaag agtattcttt gcagcttcca 60  
tttcgtgcat ctggcactga atttccacaa caataataga agaaattaat ctataatact 120  
ctattttgtt catttcggag atcttggcaa cttgcaaagc aggtgacaaa gcctttgctg 180  
gagctccaac gcgtaaaaag atatcagctt cccaaagttt cgactccaaa taatcaagcg 240  
gtttttctag tgcaagattt agcacaatat tgaaaagtca gatgctttat atctatacct 300  
ttggaaatgg aaagcttttc ccattcacta cgtattcttc gtgcatattc gtagtcatct 360  
tctaacattg ccaaagcaca atgtgccttg tggaccataa gcgtatgatc tgtgttactg 420  
gaattttcta tagaaggaac aata 444

<210> 467

<211> 352

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F5



<400> 467

atggaaacaa ggattgcaaa taatatgtcg tcatggagtt tctgtggatg gtaatagtag 60  
tgcattgcaa ttggtcaagg aagaaagata tcccaactgc agtcgcaagt tgaacgatac 120  
cgtttcctcc gacagactcg tagaaataag caattgtgtg gatatggcaa aatatattca 180  
acaactgggtt gcgcaagatt attcttccac ataaaccgta ttttgttgct ccaaaaaaaaa 240  
aaaaaaaaaa aaaaaaaaaa aaaaagaaaa aaacaaaaa aaaaaaaaaa caaaaaaaga 300  
aaaaaacata aaaaacaagc aaaataaaaa agaaaggaaa aaaatcaaaa ga 352

<210> 468

<211> 168

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F6

<400> 468

aaaaagaagg gtatggaaga aaagagcaaa gagtttttgt ccatcaagaa gactgtgagt 60  
ggagaacaag taggagaaac tgggtggagaa gtatatgtac ctctagaaag aacaaataat 120  
ccttgaaatg tatctagaat agaataaaaat cgtttcttct ctgtattc 168

<210> 469

<211> 372

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F7

<400> 469

acctcctatg cctcgaggag tacctcagat tgaggttacg tttgatattg atgccaatgg 60  
tattttgaat gtgagtgcag tggagaagag taccaataag agtaataaga taactattac 120  
caatgagaag ggccgcttat cacaagaaga gattgagcgc atggtaaagg aagctgaaca 180  
gtacaaggct gaagatgaga agcagaaagt tcgcattgaa gctaagaaca gtcttgaaca 240  
atatgcctac aacctgcgta atacactaca agaagataat gtaaagaaga ctttggcaga 300  
gagtgatcgt gagacacttg agtccaaagt gaaggaaact ttggattgga ttgatacgca 360  
tatggatgcc tc 372

<210> 470  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F8

<400> 470

```
acttccgcag cagtgcctat ggaagaagtc actggagaag aaagtggggc tggtgctagc 60
gcaagtgaga aacctagaaa gagatttgaa gtgaaaaagt ggaatgcagt agcgttggtg 120
gcgtgggata tcgtcgtgga taattgcgcc atttgtagaa accatattat ggacttggtc 180
atcgagtgtc aagccaatca gggttctgct acttcagaag agtgtacagt ggcttgggga 240
gtttgcaacc atgcctttca ctttctactgt atttctagat ggctgaaaac gagacaagtg 300
tgtccttttag acaatcgtga ctgggagttt caaaaatatg ggcgttgaaa cttcttcac 360
tgaaaaaagg agacctagac aaaaaagagc tcttatttaa agaaaaa 407
```

<210> 471  
 <211> 459  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-G11

<400> 471

```
ggtcgtagat tcacgggtcc gacgacgct cgcaccacgc gtccgcccac tgttcctctt 60
cgactgtatc gcggacatag aatggcaaca gataaagtca gctaagaaga tatactctta 120
tgtaaaagaa tcaaaaacca aagaatattt ggagctagac gattcggttg agcagccagt 180
ggattcatct tgtagacca agtggctgtt tattgcaacc cactggttg aagttgcttg 240
tactgatggg cagcgaattg aaatgattcc tttgaagaaa gatataaagg aattgttttt 300
ctctacttta aagaagaact ttgagtcgaa cgaagcgtca tgggagtgca gtgtagttga 360
aaccgcagtt gctgttttta tccagtatta tgaacagtgc gtggaacagt actatctagc 420
aggcaaagat tatgagctac ctgggtattc caaagttaa 459
```

<210> 472  
 <211> 325

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-G4  
 <400> 472  
 ggtcgagcca cgcggtccacc caaacgtccg gaagaaggta aaggaagaga aggaagaagc 60  
 agagaggggac tatgagcgag aaggtggata gtcgagaggg aaaaagccca gaagccaaga 120  
 taaggtatca aagtaaagaa agaaggaaaa ggagaagaag agagggtagg cttagaagca 180  
 gcaaaccaga gaggaagcg ttaaagcatg aaagaaaaga aatccgaaaa agaagagaaa 240  
 aaggtaaagaa agaggaccga atcagggtaa gaagtacagg agcaagaaga gaagagagaa 300  
 tgctgggtgg agtagcgaaa caaga 325

<210> 473  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-G7  
 <400> 473  
 acggacgcgt gggcgagcgc gtgggtgaaa atggaccac aatgacgaca aggtggttgt 60  
 tagacaagat tcctccgttg agtcgtattc tattactcat ctttattttt ggttcctttt 120  
 gtgtttggtg gttttctttg gagccatatg ttttactcgt tcctggactg acaatatctc 180  
 gcttttatat ttggaatgta ttgacatata gtttggtgga tggtcccttg tgggagatgg 240  
 gattgttggg tgctccttta ggctttcttt attctatggt ggagcgttct tgggggggtg 300  
 ttcttttgtt gttatttata gggtttgtat ctctttctag tgcttgttct agtattcttc 360  
 tactagtgtt cttgtacact tggaaaagag a 391

<210> 474  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-009-Q1-E1-G8  
 <400> 474

accatggttt cggaagaaag gatttatgtg gatatacctag agcaacagag tcgtcttata 60  
 tgtgaagctt ctagcgctaa ctggggttgc tgtaatgagt acgccaagtt ctggttcttt 120  
 agtaggaagc ttcggaaaac ggtatttctt tgcgcgaaac acttgacttg gattctggaa 180  
 gagccggaac aagagatttc aggtgaaaga gttagagatt atgaaacagt cgggaaaaag 240  
 acaacagcgt ttcttgaat agaccctgag ggtgggaaca ggccttgat ggctgtacat 300  
 gcagcaggca gaaggagggg aaaagtttgt ggtcttcgaa acaccttttg tttctacagc 360  
 tttatcttta aagactatat atatttatgc acgggacaca ttttttaggg atanacggtc 420  
 aagtagccca cgtagtatc 439

<210> 475  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-H10  
 <400> 475

accacgagtc cgcccacgcg tccgcccacg cgtccgggtg tatgatgcag gcaaagaagt 60  
 gacgcagtag atcagagagt aacacatgca agtaggtaaa gcgaacgggt gagtaaggag 120  
 gtgtgaaaga gtggaagaac atgaaagcac agaagaatgt aagaaatggt tagagtaaaa 180  
 accataaagg aggcaaatac gggaaagcag taaaagaaga aagagaaagg aaaaaaactg 240  
 agtatcagga agaaaagagg gagtagatga ggaaagaaag atcaaggaag taagagtaag 300  
 agaaggagta atgtgaatga aagcaggaaa gtatttgaag aagagagtgt aaagcgcgta 360  
 ccttttgcac aatgtcccag cgagtgaaaag 390

<210> 476  
 <211> 347  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-H11  
 <400> 476

gccagactac atttgggggtc ctgtacaaat tccgcaagga tatttgctgg ttttagggga 60  
 caaccgaaat aatagttttg attcgcataat ttgggggttg ttgccgaaag aaaaagtgat 120

cggcagagcg atattcaaatt attggcctat tcataggggtt ggggtggatcg aacattgaac 180  
gcagtcagag ttgccgccag atgcgtgggtt tattatatca tgttgacatt ttggggcggtt 240  
gtgacgaatc gaaaggtgcc gttactcgtt gcaaatagac gagaacgtct ctcatttgca 300  
cgacgttgga aaacaatcat ttcataaagg tcactaccca tcgttcg 347

<210> 477  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-H12  
  
<400> 477

cgcgtcagac cagcatccg cccacgcgtc cgccaatgga aagacagtgg aggttatcaa 60  
tacagatgca gaaggaagac ttacattggc cgatgctttg gtatatgcag aacaaatcga 120  
tacaatggac tgcacatcg atgtggcaac gttgacaggc gccatcatca tcgcattggg 180  
aaatgactat gccggttatt gggccaatca ggaagcgttg gcgcaacgaa tagaaactgc 240  
ttcgaaacga tgcggagaaa agttgtggag aatgccttta gtgaatgaat atttgagtc 300  
tttgaagagt aagattgccg acttgagaaa tgttggtgga agggctgggtg gctccattgc 360  
tgcggccttg tttttaagag aattcgtgaa gcagtctcct tgggcgcata tagatattg 419

<210> 478  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-H4  
  
<400> 478

gggtcgaggc ccgcgtccgc ccacacgtcc gccacgcgt ccgccacgc gtccgcggac 60  
gcgtgggtaa tatgaataat agaaaggata acaagaacaa gacagtagat atgaccaaag 120  
agtttttttag ggagcctcca agacgtggaa gaggaggaaa tagtcgcggt attggaggga 180  
ataggagagg aggaagagga aaaaccggtc ctccaaatac ttccaataat aactatcgac 240  
gtgaagaagg aatagtggaa gaagcaagaa atgatcatag acgagctgct tctcgatcga 300  
gaggtttttaa tgctcctcct cgacgtgggtt tttcttcttc gagaggagga ggtcgggggtg 360

gctttcgttc caatcgaata accacgcaa gtatttca

398

<210> 479

<211> 386

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-H6

<400> 479

acacaagtgt tataataata ttgcagctag aatgatcaac caggttagtc acaacagtgc 60

ctccgtaatg tttgcaacgc acaacttgga ttctatggag agagcagcta ctgaaatggc 120

tgaaaaacag ctgcacgcta gcaatcctaa cgtttatttc gctcaattgt atggaatggg 180

agattctatg acaatggcct tagcgaagga aggttataac acttgcaa atcgttccatt 240

cggacctgta caggaagtga tgccttattt aactcgtcgt attgaagaaa atcgagacat 300

tcttgccggt gcttcaaagg aagtcggttt gtttggggaa gaacttaaac gccgcgtcct 360

tttgaaggca gcttgagtct gttttt 386

<210> 480

<211> 445

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-H7

<400> 480

agggaagtat gaccagtaa tgaggagtgg agtaaacaga aaaggaagta aaaggaggga 60

atgaagggaa gttatggcaa aaacacgtgc cagcagcagc ggtaaacgt gtgtagcaag 120

cgtagagcag aagaactggg tgtaagggtc gagtagtaga gtaagtgtaa aagggaaagg 180

aaaggagaga aagaggaaag ggatgaaatg cagagatctc tagagaaagg caagaaagaa 240

aagaaaggaa gacacagtaa atgaggcgag aaagcatagg aagtgaaacg gattaggaac 300

ccgtgtagtc tatgcagtaa aagaaagaat gagtaagaaa aaaggagtc attccaccag 360

ggggagtaaa ggcgcaagaa agaaaccaa agcaatttag aggagaaccg gaaaaagggg 420

tggatcacgt aaattaatcc gatat 445

<210> 481

<211> 425  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-H8

<400> 481

actcctctgc gatatgccag ccttgattat caccacaaat gcgtctttca cggacgaggt 60  
actaaaagaa cttttaccac aactctccaa aagtgtggca gaagccttac ataaaccaga 120  
acattacatg tgtgttgggg tcacaaaggc ttcaatgatg atattcgggg gctccgatga 180  
gccttgtgcc tttagcactt tatcatctat cgggagtatc aatcgcaagt ccaacgagaa 240  
agttagtgcc attgtgtgtg atctcctgca aaaatacttg aaaatagcgc cttcaaggac 300  
ctatattcaa ttcactgatt cggcacctga aaactttgga cacaatagtt ctacctttta 360  
atcggaatatt ccgtttgtaa tgcgtccgt tgtgaaaaaa aagtgtgttt tgggttgtgc 420  
attgg 425

<210> 482  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A1

<400> 482

cccacgcgtc cgcgctacaa aggaccgatt gacgatgcgg ttttctctat aaccttgatt 60  
tttgctcagt atttttgggc caatcaatta tatttgttgt gcacctgtag ctctcgtagg 120  
attatttggg gcagcggtag attttttggg tgtttcaatg gagggtttgt caaaggcgga 180  
gcagtctgcy tggcttaaaa ccagttacgg agacgagtag tatactcgaa agagatccac 240  
aacgaagaaa gaactgtttc tatttacctg tttcaatgaa agtttcggat gacgccacaa 300  
agctacttgt tgtgacggga aataatcttg aactcacaga agcgttgcac aagtatgttg 360  
aagaaaaagt taggaaatcc atttcaaa 388

<210> 483  
<211> 310  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A10

<400> 483

cccacgcgtc cggttggtgt agtgtacgag ggttggtcat ttgttgagct gaagagtcaa 60  
tgaacaagct tcagttgcta tacgtaacca aacaagctgt ttcaaaagca tggcaaagag 120  
aacagaaaag gttatactcc gagaagaaat cagttgcaga aggaactttg ggaagcaagt 180  
ggaaggaaag agaaactgca caagagagcg cgtactttaa tcgtgaagat gagcaggcag 240  
tacaaaggtt agcagcgaaa cttcggcagc aaattgagcc atcggaggaa gtactcgccc 300  
aacaagaaa 310

<210> 484

<211> 436

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A11

<400> 484

gttcaagggt cgagggacgc gtccgagctc aacaagttat cgcacccaaa caatgtgtca 60  
agtactatac cgagcagaag atccaacaaa agtattgctc tcgctatgtt actgaagaag 120  
aagtacaaag caagcagtgc atcaagtatg tatctcttca gaagatcaag tacgagtcac 180  
gctctgctca atatgaagtt caaaagatca agcagcaaca atgtactatg acagtctctg 240  
aacaatacat acagcccgat acttgctaca agtatgtccc tgaacaacaa ttgggtgcctc 300  
atacttgcta caagtattat tctgtacca agtttattga aaagtgctat cctcagtatg 360  
caacaacgga gaaatgtgta gagtatgagt atgttccata tgccacttct acaccttatc 420  
catcggatatc tccaag 436

<210> 485

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A12

<400> 485

accacgcgtc cgccccgcgc tccgcggacg cgtgggttga ctgacaagca gtgatgagga 60



caagtcggtg gtcgcgagct gctttatctt ttttgatttc tactgcggtt acaaagtctt 120  
atcctcctca taataacaca caccgattatg tctccttgta tttcttgcca ttgtatcgca 180  
actgggttca acgcgttgga attcatagcg ttccttttgt actagctaata gatactgggtg 240  
actccttgaa aaaacaagaa aacgctgata aagttcacag gaagacacag aagaaaggct 300  
ccacaacgga ttccaaacaa gtaaaaaagg gcacccctga gtcgcagccg gaagatgggtg 360  
cggaaacaga cgtaaaccct cctccaaaag 390

<210> 486  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A3

<400> 486  
ggtccagtg aaataatata cgtattccca gaactccgca agacagccaa aaatgtggga 60  
tttatccatt ccaaattaac tccgtttcct gggggaaagg ggaaaacttt ttccccagcc 120  
tccgcaaggg acttggtgat ggggtggccg aaaacctgtt tgaatccggg gggaccttg 180  
cttagggaat aagctctctt cccacagggt gtagcttcgt tatcgaggga attgggtttc 240  
tccgttggtt ttcttacaac agcgttccaa ggattattat cctatgcagt tgctttttta 300  
cttgttccgc taggtcgttg gtggtatata gagcgcacaa atagacaacg aaggtctcgc 360  
aatacccaac gagaaaaag 379

<210> 487  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A4

<400> 487  
accacgcgt ccgcccacgc gtccggtcaa tgtgggtatg attaaggagg aagttgataa 60  
gtttctagtc ccagtttctt cccagttgga tttaaaagaa aacgatatat gggcaattca 120  
gctggttggt agtacaagtt ataataatga agtttccagt cactttacgg agaagcagaa 180  
ctgggtaatg aatacaggag tctattatga gaggcgtttt gaaaagaagc gaccttcacc 240

tgggtgcttgg caagacgcga gtagttccaa ttctgataaa gaaggtctcc atattggccc 300  
 aaactgtcaa cttgtagttt gttctgttga taacttgaaa gacttcttgg gtcagcaagt 360  
 ttatgaacaa ctccagaa 378

<210> 488  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A6

<400> 488

gatttggcca acggcgtcgt cgtttcccat gccaaaagac aaaaaagaag tggacaaggc 60  
 aaaaaaagca gctacggctg taaagtctgg attgaagaaa aagaaaggtc ataagataag 120  
 aacaaaggtc cacttccacc gaccgcacac tttgagattg ccgagacaac caaaatatcc 180  
 tcgcaagtct tttcccaaaa aaaccagctt tagatcaatt caaaattatt cgatatcctt 240  
 taacaacaga gtctgctatg aagaaaattg aagatcacaa tactttgggtt ttcttatgcy 300  
 acgtgagagc ttccaagcca caaatacgcg acgcggtaaa gaaaatgtac aacat 355

<210> 489  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A8

<400> 489

cccacgcgtc cgcccacgcg tccgcttggc aacgcaaaga attttaaagt atgacaaagc 60  
 gacagcttca taaaaatacg cttgaacatc ttaaacaaca tcgaaccatg ttccctgcca 120  
 tcgaagcaag gttcctgatt gtaaagacac gagtaaactc agaatcgagt gttttttgga 180  
 caacaaaaag ttctactgag ccatcaaagc attcaaaacc aaaagttttg gataactttc 240  
 ctgtagagac cctatgaatt cctggcaggt gctgttcaaa aatgtaatag aacagtttgg 300  
 cattgaaacc ttatcatctt t 321

<210> 490  
 <211> 398  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-A9

<400> 490

aagagaagag agaatgctgg gtggagtagc gaaacaagag aagggaagta aaaggtaaga 60  
aagaggaaag gtttacgaga gaaggaagta gaaagaagag agtgtaaggc ggcgtcataa 120  
tagaaatccg aaaggagtag aagaaaagag agagaagaaa gaaaagaaga gaaaagccgt 180  
actgaagacc gacacaggta ctcgaggaga aaggagacc aaattaaggt gagagaatgg 240  
acgataagga actaggcaaa aggatatggt atctgcggtga gaacatatga aagaagcagc 300  
accgactgtt tagcaaaaac acagcactct gcagaaaaga gaaaatgtaa agtatagagt 360  
gtgcggcctg ccaaatagta gagaagaaat cgatgaaa 398

<210> 491

<211> 381

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-B1

<400> 491

gcgtcagaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaaa aaaaaaaaaa aaaaccaaaa aaaaaacaaa aaaaaaataa taataagcag 120  
aaggaaaaaa aaggggggggc cccccaaaag gttccaaact tatttgccct agatggcaaa 180  
ttgagacccc tgccaaacgg cccccaaaat tcatttcacg ggccgtcttt taaaaacttc 240  
ttgtctggaa aaaccctggg tttaccctaaa taaaaccctc tgcaaaaaat ccacttttcc 300  
caacagggtg taataacaaa agggccccc ccattgcccc ttccaaagaa ttgccctccc 360  
caaatggga aagggacccc c 381

<210> 492

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-B10

<400> 492

aagagatggc aaggagaata ttgggtgctt atatgggaga tgccacagtg gcaactctgt 60  
tcagtatcaa aatgttggtc tatcttacta tcatggggtt ctccataact atcttggtc 120  
tcatgggaaa gaactcggat ggtatttgga tacatagtgt gccacctgca gaacaatatt 180  
gtgcatacaa gtcttcattg gaggtgaacc accatggaat tgcttcctat tgcaagtata 240  
tcgttgccgt agctgctatt gggttgggtt tctcggtttt ccagttttgc tacgggtctgt 300  
tggggatatct tttcaagtgg caacaaaagt tgtggtatat ttaagatgct ttcaatctat 360  
ttttctgggc ttgggtggtg gttggtgcta tcgttgctac cgctgc 406

<210> 493  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-B11  
<400> 493

gtccgaagag atagcaagga gaatattggg tgcttatatg ggagatgcca cagtggcaac 60  
tctgttcagt atcaaaatgt tgttctatct tactatcatg ggtttctcca taacgatctt 120  
ggctctcatg ggaaagaact cggatgggtt ttggatacat agtgtgccac ctgcagaaca 180  
atattgtgca tacaagtctt cattggatgt gaaccaccat ggaattgctt cctattgcaa 240  
gtatatcggt gccgtagctg ctattgggtt ggttatctcg tttttccagt tttgctacgg 300  
tctgttgggt atctttttca agtggcaaca aaatttgggt tatattgaag atgctttcaa 360  
tccatttttc tgggcttgggt ggttggttgg tgctatcg 398

<210> 494  
<211> 344  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-B12  
<400> 494

gccacgcgtc cgggaaaaat ggtaagtcga ggagtacgag gttttcaggt gtttagtcgg 60  
ctgttttcat cggttgctac tcgttcaacg agtattccat ggatattgta gagtagtatc 120  
tcgagtttta ctacagtgcac ttcgttaaag gtcacttcta agggcaacat gaatacaacg 180

cttgtgcctc aagtattcag tcgtcgactg tttttgcaaa gccaat AAC gtgcaaccca 240  
gactcagtca ggtttttacc tgggagataa gttattcctg acggaaacag tatcgacttt 300  
cacaacgcgt atgctgctca aatttcactt ctggcaaaaa gact 344

<210> 495  
<211> 369  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-B3  
<400> 495

aaaatgggtt tgaatggagt cgacaatgga cgtatatggt ttgatcatgt gcgtattcct 60  
cgagaacact tattggctag attctgtcaa gtttctgtgg atggaagtta ttcttcgggt 120  
tataagactg cggatgagaa gtttgcagca caattgggtg ctttaactgg aagtcgtgtt 180  
agtattttccc gttccgctat gaatcagtcc atggtccaac atagggagtg gaaataccta 240  
ttatgaacta tcaaagtcac cagatgagat taatgccacc attggctgca acttgtatta 300  
tgactttgtg tgccaatcat ttaaagtctc gttatcgcaa ccgagccaat gagaatttaa 360  
aggaattgc 369

<210> 496  
<211> 377  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-B6  
<400> 496

cttgacagac atggaagttt cgtttttgta cgcacctata tgtccctttg cacagagaac 60  
ttggatatta ttgaaaaagc tcaagggtcc tttcaaagaa gtacttattg aactcggaaa 120  
ggataataaa gaacctggt ttttggagtt aaaccacta ggaaaggtgc cagtccctgag 180  
ggtacgtgaa aaagcagaag cctctgaaaa agaagcagtt atttatgagt ctttgggtgtg 240  
caatgaatat ttgaacgaag tttttgcgga aaataagctt cttccacaac atcctgccca 300  
acgagctttg gctagaattc tcgcaaccag agtagatggt ctagtctctg ctatgttcaa 360  
actactgaaa acaaacc 377

<210> 497  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-B7

<400> 497

cccacgcgtc cgattcttaa gaaatgaaag gagaagggtgg ttgtgttcca ccgctcaagc 60  
aacctcgcgt ttctcagttt cgaccacaag acgttgggtct tcctaaagac tttcttttaa 120  
cttcattttc tcgttttaaag ggctgaggat gtaagggtcc tcaggcagaa ttagaaggtc 180  
tcttgggtcg ttttttgacg caaccacaca gttgtaaccc gagtcaagga gttgggttcgg 240  
attgctctct ccagccaagc caagtacctg atgtgtatct agcctctaca acagactttt 300  
tctttccgct cgtggaagac ccttatacta tgggcaagat tggagcagcg aacg 354

<210> 498  
<211> 374  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-B8

<400> 498

agcaatggca ttgtgggtgga gaggacttgc acaacgtttt acgtgggttc gctctaccaa 60  
taatatcaaa gagcgtgcat attccattcc tagttcgttg agaaacctac actcctcgcc 120  
acgttttatcc gtacaaaaag aagaaagtca ttcagacacc aaagggtgtaa gttgtgtttg 180  
tgggtctgaaa agccaagctc acttgtatct ctttttagcca gttagtgtga aaacagtagg 240  
agcaacattt gcaataggtt cagggtctttt atttttatat gcacaaatga agaataagaa 300  
aatggaacaa cttcgggtaca atcaaaaagga gttgggacaa ccagctatcg gaggtccttt 360  
caagctttta gata 374

<210> 499  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-B9

<400> 499

aaaagaccga cacaggtact cgaggagaaa ggagacccaa attaaggtga gagaatggac 60

gataaggaac taggcaaaag gatatggtat ctgcggtaga acatatgaaa gaagcagcac 120

cgactgttta gcaaaaacac agcactctgc agaaaagaga aaatgtaaag tatagagtgt 180

gcggcctgcc aaatagtaga gaagaaatcg atgaaagtga aagcgagtaa aagatgaggt 240

atagagaatg gcggctctaa cagtaaggat ccaaaggtag cgaagtaaata agacgtttga 300

aaggcgtcca gtatgaaagg agaaacgagt gtagcactgt ctagtcgtcc aactcagcga 360

aacagcaata actgtgaaaa tgcagtaaac t 391

<210> 500

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-010-Q1-E1-C10

<400> 500

agaaactgtt ccacggttga taagaagctt agaaaaggaa caaatagaat atatttcttg 60

tggttcgagc catgtttttg ctatcaacaa agatggagtt gccttttggtt ggggttgtgg 120

tcgatatcat tgttttggta tgcaccaaga agtcgacttg gtccaacctc aagccttgga 180

gcatcttcct gggccttgga aacagttggt ttctggtgga ggcatactt taggacttac 240

aagaggaggt caagtgtgga catggggagt aaatcatttt ggttgtttag gtgttgggga 300

acaaaaccaa caggtttttc caggagaacc taggatggtc gagaaattgt tgaagattgc 360

canagaacct attcagtgga ttgcagctgg at 392

<210> 501

<211> 249

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-C11

<400> 501

gtgggttggt gagtaagtgc gcttggcaac aaactaaaag atggcaagaa gaatcatcgg 60

agcttatatg tctgacgcta ctgtagcgtc tctatttagt gtgaaaatgt tgttctacct 120

tacaatactt gcgttctcta tcactattgg tggctctatg ggtaagagtt ccgacggtat 180  
 ttgggttcac agtgttccag cgaaaagacga ataatgtgca tacaagtcct cccttcaagt 240  
 taaccaaca 249

<210> 502  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-010-Q1-E1-C4  
 <400> 502

acccaagcgt ccggtagagt aagtgtaaaa gggaaaggaa agagagaaaa agaaaaggaa 60  
 taaatgcaga gatctctaga gaaaagcaag aaagaaaaga aaggaagaca cagtaaata 120  
 ggcgagaaaag catangaagt gaaacggatt aagaaccgt gtagtctatg cagtaaaaga 180  
 aagaatgagt aagaaaaagg gatcattcca caagggagta aangcgcaag aaagaaaccc 240  
 aaagcaattg acgggaatcg gaaaaaaggg tggatcacgt aaattaatcc gatgtaaacc 300  
 gagaaaactta cctctccaag aagggtgttc acggctgtcg aaagaacgtg ctgtgaagtg 360  
 agagaacgta cgaaaaagcc aagttaagg 389

<210> 503  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-C6  
 <400> 503

cgcaaaggcg tgtccaaggc atttgtgaaag agtctgtgaa aacactttcg aagccttggg 60  
 caatatattat tgaagagttg aatcgtagat ggcaaaaatc ttccaacaga cttttgttac 120  
 ttcttggaaat ttgggttggg gcctttgtcc ttttaacaac gttgtttacc tgcattcttt 180  
 tgtacaagga tagccacaag tcgccctcga gaaaggagaa atcaggaaat aaggaaaaca 240  
 aggagcaagt agttaaggag tcctccaaaa gccagcgtc gtctctaagg catcgagttc 300  
 ctaaaacttc ttaaggggtt ttgcgaagaa cgcttacact ttttttcctt atgtagtccg 360



gatttttgcg accgtttgac gttaaa

386

<210> 504  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-C7  
  
<400> 504

ctcgagggtt gcatgtttca aagcaagtcc aatcttttga agaaataaccg ggttgtggtg 60  
tgcaatcgat cgtctccaat catgaaatat tcataggaaa cttgaaatgg atcatctcca 120  
aatgcggtac ctcacaagaa cccacaaagg attggttgga taaggaatat ttagaacagc 180  
tacagagttg gatgaagaac ggaagtactg tcgtggtagc tgccatagac gatactcctt 240  
gcattgcatt tcgcgtcgat gatgagttga gaccggaagc caaacaagtt gtttcgtttt 300  
ttagagaaaa gcacaaaatg gagtggttgg tagtaaccgg tgataacgat agcactgcat 360  
ttgcagtagc cagagc 376

<210> 505  
<211> 263  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-C9  
  
<400> 505

aaatccacaa tcgggaaatc actagcgaca aaaagcaaaa tgttccttta gagtatctag 60  
aacaagacac ggagtaattg aaggaatggg gatatcgggc ttaagtatat ggtcacgtgt 120  
catctcattg tgaacagtgg gataattgta ccatacacag tataccacac gtaccgttgt 180  
cacaattcct gataggattg gccaaagatac ctcgcggtaa tttgggcaat agccaagtaa 240  
agaatcgaag ctactagctc cta 263

<210> 506  
<211> 149  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-D11

<400> 506

acaaagtaca agttgtatta acccaacaac attgggaagg aaacagttcg tggattattg 60  
cattgaaacg attgatagaa gctggaaaaa cggtagtta attggttgat aatagcatcc 120  
ataaactaat agtaaaataa acggctttt 149

<210> 507

<211> 322

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D3

<400> 507

acgcgtccat acagctatcc ttgtcaaact tatgagcagg tttcaactac ttaccagtgt 60  
ggtcagtacg agtcccaaca agtttactac caatgccaaa agtataagga ggttactcag 120  
caagaatgcc agtacgtcca agagtcgtat tgtgtcgagt atgaagaatg tcagcaagtt 180  
accaggaag tttctccttc agaaattgtc tactacggtg aatcttcttc tagcagtagt 240  
tactactact agaacacttg tgaaatgccc aaagtcgcaa agtagagtgt tcttttttga 300  
ataaactgtt actttttgtc at 322

<210> 508

<211> 371

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D8

<400> 508

tgcacggctg tcgaaagaac gtgctgtgaa gtgagagaac gtacgagaaa gccagtgag 60  
gaaaagaagg caagtagagg gcggcccgag aaaggagagg gcgtaagacg tgatacagag 120  
taggaagaaa agagaagaga gctagaaagg aggtaaaaga agagtaaaag gactagaaga 180  
ggtacggaat tcacgaggaa ggagcgtgaa ggaaggagga atcccaagta atcgaggaag 240  
aaaaagcttc ggtgaaagcg tgaacggaat ttgtacacac tgcccgtaa gttctggaag 300  
tgtgctagga ataagcagga gaagtagaag agagtaggaa aagaagaaag gaagtgaaga 360  
cgtaagacgt g 371

<210> 509  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-010-Q1-E1-E1  
  
 <400> 509  
  
 atttatgggt gtggaagaaa ttcaagctgt agtttggatg actcgtgaag aggaagtaaa 60  
 aaaggcagta agtttttttaa agcatcctca ggtgaagcct acagcgggac agagaaaagt 120  
 agatttttta agaaagaaag gcttgacgga ttaagagata aaagaagcgt ttcaaagaac 180  
 tggacagata tatccagaag atagtttttc tggaaatgtg gaaggagaga agtggaatc 240  
 tcctccaaag gcaacagcaa caccggataa tttaccaaag actgccgtac caaacgagag 300  
 tgtctccaat caacaggctg cgccagcttc taagggcaaa gtatattcaa acaatgttcc 360  
 ctccaaatcc aacgacagtg aca 383

<210> 510  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-010-Q1-E1-E10  
  
 <400> 510  
  
 aaaagtcatt ggaaaagtgt atcctacaag aaatatgaac ctacaagttg tgtcaaagga 60  
 cgaacggagc catgtcatat tcgacaagtt gcagaaatag tttctcaact gtttcaagtc 120  
 tccatcgaac aagtagccaa acaagccttt cataacacca tgaaaatatt ttttcccaac 180  
 gagtccgaaa gtggcaatta tgagtcgctt tttgaaactg ttcgacatca tcgctcttaa 240  
 gagcgcgcca tttctctatt agcatttttc tttgtctcgt tgcagttttt ctaagacggt 300  
 ggccatttga tatttcatga tgggctgtcc tttgcgggtt ctcaaactca actttttatg 360  
 ctacaaaaca gaacaatata ttcaacccaa tagaaattgt cattattgac aactaaa 417

<210> 511  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-E11

<400> 511

gaggattcga ggagagagag agagacagac agatggccaa cgctgggtcaa gatggccttg 60  
tgcaagtcaa caaacataga aaagtaaaga gattgcaaga agataatatt ttgaatagag 120  
cactatcaca accaggagat gtattttctgt gctttttgcaa catccagttg ttgggtgaatg 180  
cagaaagagc tatttatagga aatattactt gtccagaaaag taticgaattg tgcgtcttat 240  
tagctggaca tatagcagtt tgggttcgatg aacattttgga tgacttttcgt ttggaagcta 300  
tcttggggagc actattgtgt acttggttaat gtgagtggaa gcgtttttgaa ggagaattgg 360  
gggtacaaga atgg 374

<210> 512

<211> 384

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-010-Q1-E1-E12

<400> 512

cccacgcgtc cgcccacgcg tccgcggacg cgtgggcaag aaaggaatgc aagtgttcgc 60  
agaaacgaag catagttagt atcccatcga aaatacatcg ttttggcgag tcacgaagct 120  
attctcga aaacaaagtaaa cacgacatgg ttggaaactt gcggatggga ggtggtgtac 180  
ccaaagtgcc ctataaagcc cctggtcaac aaaattatga gtttatagat atatttaacc 240  
gtttctatag agaaagaatt atttacattg gtcaagaaat tgacgaagat caggcaaacc 300  
aatcatagc gatattattg tttttacaaa gcgaagacga tcaagcggaa gttcagttat 360  
atatcaactg tccaagaggc tttg 384

<210> 513

<211> 325

<212> DNA

<213> *Cyanidium caldarium*

<223> unsure at all n locations

<223> Clone ID: LIB190-010-Q1-E1-E2

<400> 513

agcgttaaag catgaaagaa aagaaatccg aaaaagaaga gaaaaaggta agaaagagga 60

ccgaatcagg gtaagaggta naggagcaag aagagaagag agaatgctgg gtggagtagc 120  
gaaacaagag aagggaagta aaaggtaaga aagaggaaag gtttacgaga gaaggaagta 180  
gaaagaagag agtghtaaggc ggcgtcataa tagaaatccg aaaggagtag aagaaaaggt 240  
ccaaacaaga gaagtcagca gtggggaaaa ttgggcaatg tacagggag tatgaccag 300  
taatgaggag tggagtaaac agaaa 325

<210> 514  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-010-Q1-E1-E3  
<400> 514

cagtcaagga ggaaggcttt tccaaagcaa tcatatagaa aaacaaaagt gtatgtaata 60  
tacggtagct attctaattgt aaacgatata gaagtatttt ggcggttca cactgagaac 120  
caganaaatg ataagaaatg gcgatgtcca aatcgcgagg attttttcga ttcggacgac 180  
tcgccaacgt tccataaatc gtttctcccg tacatatcac caattcctat ctttcgtcat 240  
atctctcttc atacaaaaga aaatacgtac tctgtccaaa tagaatactg cttgcttcca 300  
gtgtgtagtc ctagcctgtg gtccagtggg aaagccaagc gggttatgac agtgattgaa 360  
gaacacatca aaatgtgcaa caaatgcatg aataaaatca tttcgttcag ctttc 415

<210> 515  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-E6  
<400> 515

tggaagcttc tgcgcaagta caagctgcac gaaagtgcag agaagaccta cctgcagttg 60  
ctgccaagag ttgtgttcaa tcaactggcg ttttacttga ctagttgcta cataggagag 120  
aaaatggggt ggatattcag aacccttct aaagacaatg ctttccaact ctggaagttg 180  
cctatctatc ttactttgta ctctttctat catgaaatta tattttactc tgctcatcgt 240

tggctgttgc actccaagtg ggggtttaac ctgttgggac acaacgtcca tcataccacc 300  
 aagggctctg ttggtatttc gcaacattat atgagtgtca ttgactatta attgggaatc 360  
 gggttttt 367

<210> 516  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-E7  
 <400> 516

gtgcttccat aggagaggta gttgtcattc tgttggcgca acttggtcat aacatgtatg 60  
 ataggtatat ctagegaaaa gctttggctg tcctacagat agaattgtat tcgattcacc 120  
 ggtaaagact acgaaagact tgatgcaggc tttgaatgac ggaatctata tcaatgcaga 180  
 taattttcaa gaacttgaga agatacaaga atgtttgaaa gatgacaaca ccgatgacaa 240  
 aaggccaaaa aagtgcgcca aagtcggcct tcgtatcaac cctcaagtag gttcagggtt 300  
 attacaggaa accagtactg ctagtgccca aa 332

<210> 517  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-F11  
 <400> 517

ggcagttgta ggataacttg cgtgtttctc gaaagtcgat ttgtattatg gagcgttatt 60  
 caaaagaaca gtgtttgtgt gtccactact ttaaataata gaaactggag aatgcaaat 120  
 aacaacgaaa ataactcacc taaaagatat ccttttgaag acgagtggag agaaaagttg 180  
 aatagaaaga tgaaacagga aaaaatagct cgacaagtta tgtctcaagt gcaagagttg 240  
 agatggaaag aaagtttgga ggggtacatt gagaacgaag tggaacatat tcgaaaccac 300  
 gtcagtaata attttcgtta tcacagcca caaattatga acaaaggtgt tgaaactgca 360  
 aagcgtgtta gtggcaactc agttgcttcg tggaacaaac aaattttt 408

<210> 518

<211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-F12  
 <400> 518  
 agattgcaat atcacactgt gcaagcgctt tatgaattgc atgttttttg agatcacaca 60  
 aacacttgta cactgaatga acgacgatg ggtactaact gtgcattttg tatagatatc 120  
 aaggatgtca aatatgttat caactacgat ttcccgaata ctatagaaga ctatgttcat 180  
 cgcattggtc gcaactggcgc tgctggcgcc cttggaaagt cccatacgtt tttcactccg 240  
 gataaaattcc gtgttgcgaa agaattagt aacttggtgc gagatgctgg acaggacatt 300  
 cctcccgagt tggctcgttt gataaaaact tcgtcctttg gcggtaacaa cagaaacttt 360  
 tctcgttatc gaagttacaa ttctccgggc 390

<210> 519  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-F2  
 <400> 519  
 agcacgacaa gggcgacagt ctggagtcgc tactggaaga cttgtggaaa actcctcttt 60  
 cagtggcttt tccaaaagga cagttggaaa gggcaacgaa atataagaat gggtacaaac 120  
 ccaagatgtc cagcaagttt ccctaataaa agtggctcag atgccggata acgaagacag 180  
 tatttcaata gttcactttg acgaaaagtt gcttaaaaag gcattccttc ctaataatgt 240  
 atccatttta gagcctttct ggatacaaaa agaacagcct ttgcacattg cttcccactt 300  
 gaaaaatgcc catattagaa agatcaaaaag gaagagacaa gactccagtc ctactgatat 360  
 ccaagtatac gaacaaaaga agaaaa 386

<210> 520  
 <211> 105  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-F3

<400> 520

aaagaaacca actgggaatc cccaataac ggggaaccaa accggaaaaa cccaacaagg 60

aaaacccccct tttcctttgg gaaaaaaagg aaatttattt gaaaa 105

<210> 521

<211> 347

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-F5

<400> 521

agtgctacgg agatactgaa tgattcgttg ttttattatc agcggcgagg tgtcagtggc 60

aatgatggca gtagccaatg cgggaggaaa atgacgtggg aacgaagtgt cacggatatg 120

tcaccgatga tgatgatgac tcgtagtgct attgctgctt gtggtcgtag tagcagtggc 180

tccaaagagg aggaagacaa caacaacaac agtactagta caagtagcta tcctagttcc 240

tcagccattt ccagttttta tcgcaataat gttgtcgttc aaagaaattc tccatcagga 300

attccaaggc atctagtggg gcaaaatcaa acaaaggaac ctactcc 347

<210> 522

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-F9

<400> 522

accacgcgtc cgcggacgcg tgggcggaac cacgctcaat ttacggccga tatacgacag 60

tgttttgtgt gaacatatac taactcgact ttgggtatcc aaccaatata tttctaattc 120

ctcctataca ctagtttttag ttgtatgagt ggaatatata tatatgtagt tatctccttg 180

taacattcgt tggaatatct cagataatac atgccattgg actgctattt tcagcgagaa 240

aagtatacat ttctctccac aagaacgcag catgtttcat cctcggaatg tacgtatatc 300

tggagatatg cttacctcaa atagaaacca tcgtctgcct tccataaaca gtcactgttc 360

ttcttcttaa tgacagaaac ttccaagtgc ccttcgatag gttcaggata aacatatttc 420

<210> 523



<211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-010-Q1-E1-G1  
  
 <400> 523  
  
 gaggaattcg ggaggtgaaa agatggtgtc tattatgctt tatttattct cgatgcagca 60  
 gtcgatgaag gctcctttca cccttgctga tgaaatgaac cagggaatgg accctacttt 120  
 tgagaggaag attgtttccg tcatgattag tgatgcacga cattccacaa gttctcaagt 180  
 gtttctcatt tccccgaaat tgctcactga tctagagttt ggaagagaaa cgaaaaccca 240  
 ttttattttc aacggccctt gtgtcagtac caaacaggat tggttgaatc agttgctgtc 300  
 aaagtatata gaaggatagt tgtgaattgt tttggtttta aatggtaccg taatatcctt 360  
 tgttttatat gaattgt 377

<210> 524  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-010-Q1-E1-G10  
  
 <400> 524  
  
 cccacgcgtc cgcccacgcg tccgaacaac tgcggatcgt gctagagaga gagagagatt 60  
 gtgtgtggat agttggatcat gaacgaagaa atatctgcag ataatcctta tagtagacta 120  
 gtagctttga aaaaacttgg tgttgtaaaa aactttgacg aaattagaaa gtactctgta 180  
 gcggtggttag ggttggttgg tatcgggagt gttgctgcgg agatgctcgt tcgttgtgga 240  
 attggaaaac taattctttt tgattgtgac accgttgaat tggccaatat gaatcgtctc 300  
 ttttataaac cagagcaacg aggggaagaca aaagtacaag ctgcgaaaga aacgttg 357

<210> 525  
 <211> 72  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-010-Q1-E1-G3  
  
 <400> 525

cccaagcgtc cggaaggcgc aaatttgtgg gtggtgtccg aaaacttttc aaccttggga 60  
aaagtcctta aa 72

<210> 526  
<211> 315  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-G5  
  
<400> 526

aaaggagtag aagaaaagag agagaagaaa gaaaagaaga gaaaagccgt actgaagacc 60  
gacacaggta ctcgaggaga aaggagaccc aaattaaggt gagagaatgg acgataagga 120  
actaggcaaa aggatatggt atctgcggtga gaacatatga aagaagcagc accgactgtt 180  
tagcaaaaac acagcactct gcagaaaaga gaaaatgtaa agtatagagt gtgcggcctg 240  
ccaaatagta gagaagaaat cgatgaaagt gaaagcgagt aaaagatgag gtatagagaa 300  
tggcggtcct aactg 315

<210> 527  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-G7  
  
<400> 527

atgaataatc aacactgagc gaataggcct aaaagggagc aagcaaataa ctgctacgat 60  
gagctgagaa cagcttagga tcacgtctat tgcgttcaag cgttgctata gtctcaaccc 120  
aagctcaaca aaacccatcc gttttctcgg gatatagtag aatacaacgg ggattttctca 180  
aatactttat acgagccttc ggggtctcatt ttcaaatctt gtgggtcgcg agcccagcga 240  
gaaccaggcg tgaacgctag ggaagcatta agagatgaga tagctagcat ggttatccca 300  
acacatgcgt tgagttactt gaaaccactt cagagctggt tcaacgacag tttt 354

<210> 528  
<211> 216  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-G9

<400> 528

gtccgacgtc taagaggaag gcttttccag agcaatcata gacaaaaaca aagctgtatg 60  
taatatacgg tagctattct attttaaacg attacgacgt attttggcgg cttcagactg 120  
agaaccagca tagtgatttt aaatggcgat gttcaaactg cgcggtttt ttcgattcag 180  
ccgacgtcgc caggttttat aaatcgtttc cctccg 216

<210> 529

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-H1

<400> 529

attggacgtt gggatggaca aggctcgaca ggtgaaagct tccgagtttt gggagttgtt 60  
ccactacttg aaagggttcg gagacaaaag ttttctggta actggacaac tcatacaaga 120  
ttggcaacga ggcactattg aaggctcgtg gtgggaagat agatggccag aaccacaact 180  
agtcgtttgt tttcgaggag gaatcactca aagtactttg ataatcttct cgataaactg 240  
tgacacggcc tttcatgtac tttcacaagt tcagttgcat cctggtttct tattttttgc 300  
agtaccgat agcgttggtc cgtccattga gaaagtttcc tcgatgcaga attattcact 360  
aaagtttgaa acttgctaca cttatgtgtt gggaaacaca aa 402

<210> 530

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-H11

<400> 530

acgcctgcag tagccgtccg aaattctagg gtgattgggt tactatagat tgcaatatca 60  
cactgtgcaa gcgctttatg aattgcatgt tttttgagat cacacaaaca cttgtacact 120  
gaatgaacga cgtatgggta acaactgtgc actttgtaaa aaaaacaagg atgtcaaata 180  
agttatccac tacgatttcc cgaatactat agaagactat gttcatcgca ttggtcgcac 240

tggtcgtgct ggtgcccttg gaaagtccca tacgtttttc actccggata aattccgtgt 300  
 tgcgaaagaa ttagttaact tggtgcgaga tgctggacaa gacattcctc ccgagttggc 360  
 tcgtttgaaa aaaaactccg ccctttggcg gtaac 395

<210> 531  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-H2  
 <400> 531

gcgtccgccc aagcgtccga ttccacacag gagtatttcg aggaggcttt ccagttgtgc 60  
 cagttgtgat caaataccga tatcgcaggt tttccccac ttatgaaact atacgcttac 120  
 catattacat tttcaaactg ttacgcagt tgtataatga agctgaatat actttgcttc 180  
 ctatttatta tccaaatgaa gtagagaaga aggacccac attatacgcc aataatgttc 240  
 ggcaagtga ggtaatagct tgagtctcag tgaaatgatt ttgctgtttt gtaggaaaat 300  
 tatgcaaaag gaactgaact gttccttatc tgaaagttca tatcaagata agctcgagta 360  
 tcatagattg ctacggggtc aatgcaagaa tc 392

<210> 532  
 <211> 233  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-H3  
 <400> 532

cccacacgtc cgccgaacga atcaagaaga aactttgggg gtaacaagtt aatgtggtgt 60  
 taacaaacct ttcaagcaac accaatggca cctccaagtc cggtaacaa aacctaaggc 120  
 aaaaaaaggc cctaaagggt ttgccgttcc ccaaataaaa ttggaactta accgggttta 180  
 aaaacttctt aaaacatttc ggccccaacc ccctgctaaa ggaaggaaaa cct 233

<210> 533  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-H6

<400> 533

ggcagacgta cgcgtcagcc cacgcgtccg gaaaagtttt tcacggcagc gaaggaacgt 60  
agtaaaccat tggagtcgct cttccaaagc cggacgtcag tttccagttg ggctgtgaag 120  
tacattctta aagaatggta actatggaga aagagttgga gctggagcac ccgtgtatatt 180  
agctgcagtt ttggaatatt tgactgcgga agtgttggaa ctggcaggca atgcagctcg 240  
tgataacaag aaaacccgtg tagttccacg tcacattcag ttggcagttc gtaacgacga 300  
agaacttaac aagctgttgg gcggtgtgac tattgcttca agtggcgctt ttcccaacgt 360  
ccatcccaat ctg 373

<210> 534

<211> 344

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-H7

<400> 534

cccacgcgtc cgagagaagg aagtagaaag aagagagtgt aaggcggcgt cataatagaa 60  
atccgaaagg agtagaagaa aagagagaga agaaagaaaa gaagagaaaa gccgtactga 120  
agaccgacac aggtactcga ggagaaagga gacccaaatt aaggtgagag aatggacgat 180  
aaggaactag gcaaaaggat atggtatctg cggtagaaca tatgaaagaa gcagcaccga 240  
ctgttttagca aaaacacagc actctgcaga aaagagaaaa tgtaaagtat agagtgtgcg 300  
gcctgccaaa tagtagagaa gaaatcgatg aaagtgaag cgag 344

<210> 535

<211> 168

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-010-Q1-E1-H8

<400> 535

gaaagaaaag aaagggaaga cacaataaat gaagccaaaa agcataagaa attaaaacgg 60  
attangaacc cgttttagtca atgcattaaa ggaaagaatg attaagaaaa aagggtattca 120

ttccaccagg ggattaaagg cccaagaaag aaacccaaag caatttac 168

<210> 536  
 <211> 271  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-011-Q1-E1-A1  
 <400> 536

cggacgcgtg ggcggacgcg tgggagctta tgaagctcta ggagactttg gtatggaâaa 60  
 tgataataac gagcaagcag cagaagactt caaatcggct gtgcgttgct acgaggaggc 120  
 tgggtatgct ttgtcgagaa cagtcggagg gctttatcat agtatttatc ttgcacttcg 180  
 gtctattgac ncacacaatg caaggaaata tttgaagctt gccgcacagg tggtcgagaa 240  
 gcgtatatca gagagtcaga aacaggaagg t 271

<210> 537  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-011-Q1-E1-A10  
 <400> 537

gaaagaggca aatacgggaa agcagtaaaa gaagaaagag aaaggaaaaa actgagtatc 60  
 aggaagaaaa gagggagtag atgaggaaag aaagatcaag gaagtaagag taagagaagg 120  
 agtaaaggcg caagaaagaa acccaaagca attgacggga atcggaaaaa ggggtggatc 180  
 acgtaaatta atccgatgta aaccgagaac cttacctctc caagaaagtg ttgcacggct 240  
 gtccaaagaa cgtgctgtta aatgagaaaa cgtacgagaa agccaagtga ggaaaagaaa 300  
 gcaagtagag ggcggcccgaa gaaaggagaa ggcgtaagac gtgatacaga gtaggaagaa 360  
 nagagaagag agct 374

<210> 538  
 <211> 343  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-A11

<400> 538

agtgaaacga gttggcaatg agtgagttgg tgcgacctgg tcgtttcttt gatagcggct 60  
ttggtgactt attttcttgg acgaatgacc ccttcttccg tgatgcatgg aacttgatac 120  
ctcgagtagg tggagctgag tctcagttat ggtcgccgag aatcgacctc attgataaag 180  
aagacgcgtt tctggtgaaa gctgaggtac ctggagtacc gagagaaaac attaaagttg 240  
acttgaaagg ggatatcttg agtgtgtctg gagaaaaggc tgacgaaaaa aagtcggatg 300  
aagaacgaga aggaacggta ttccatagga tggagagaag cta 343

<210> 539

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-A3

<400> 539

gtcgagggac gcgtcagccc acgcgtccgc ccacgcgtcc ggcagcacia gctttacatg 60  
gagacatcac gcaaaaacaa agggaaatca cgctttccaa atttagagaa ggcttattcc 120  
aggtcttaat tgccactgat gtagcagcac ggggtttgga tattagtggc gtcgatttag 180  
tgattcagta tcgtattcct gaggacattg atatgtatat ccatcgcgct ggtcgcactg 240  
gcagagcaag aagacaagga acttgtgttg ttttgtatac ggatgaggag cgaagtaagc 300  
tgaatttgat gcaaaacgtt tgtaagatac gttttcgttt agaaagtcct ctttccgtgc 360  
aacatgtgat agagactaaa gccaaaagtc tcttgcggtc cattcaagcc atcgatacga 420  
aaa 423

<210> 540

<211> 168

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-A4

<400> 540

cgtccggaat gcgcagcttt agtcaatgtc gcaagtcgat cgatattcta aaaaacaact 60

atacctgtcg tacgttggag caacatagcg aactggcaca aaacatagcg ttgctgaag 120  
tctcgaaagc agagtttcag aaatccgaag acagtccttt tgatgccca 168

<210> 541  
<211> 216  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-A5

<400> 541

ctcacgcgtc cgaactgtcc tcacgagaag aataaggagt acagctatcc ttgttaaact 60  
tatgagcagg tttcaaccac ctaccagtgt ggtcagtacg agtcctcaca tgtttaccac 120  
caatgccgga agtctcagga ggtcactcac ctggaacgct cgtacttcca acagtcgcac 180  
tgagtcgatg tatcaagagt gtcttcaagt taccca 216

<210> 542  
<211> 64  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-A6

<400> 542

acgttctaaa aatgtacagt tgctgctcaa gaacaagaaa gcttcccttg aattttctct 60  
ggac 64

<210> 543  
<211> 304  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-A7

<400> 543

gctttacatg gagacatcac gcaaaaactc acgtaattca cgctttccag atttacataa 60  
ggcttagtcc aggtcttaat tgccactgat ctagcaccac ggggtttggg tattatcgga 120  
gtccatttag tgattcagta tcattatcct tacgacattg attcgtatat ccatcgcgct 180  
ggtcgcactg gcagagcagg taccactggg acttgtattg tttgtatac cgggtcaagac 240



caacttttgc ctgattttgt gctaaacggt ttgtccgata ctttttcggt tagaaagtcc 300  
tcct 304

<210> 544  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-011-Q1-E1-A9  
  
<400> 544

cgagttgaga aatatcgaaa gtcggaaaac ggtgaagaag aagctcagaa agcaattggc 60  
aagaataaga acttttttgggt tcacgttgcc aacgaagcat gttcgcgtag ataaattgtc 120  
ggcatccggtc aaacactagt gaagcgtata ccaatttttag taaatggaaa taacttgtgg 180  
agagactcat cttgatgaaa acaacttgct ctccagatga aattaatata ggggtgttgta 240  
tttcaaacac ttgagtcata taggaacggt tattcgtaaa acatatacga tgaatgtttt 300  
ctagtcgtct tttatgttgt ggtagagtag tgtgatttgt actttcctat gaataggcca 360  
attattgcct tgttctttct aagagtcggt ttaatgttgt gcata 405

<210> 545  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-011-Q1-E1-B1  
  
<400> 545

caggactggt tggatcatgt catccagatt atcgatattc tagaagtgta tcgtgatagt 60  
gcgcttggtt tggttgatat ctatttgagt ggtgttagtc ataatatgca agaaagtaag 120  
tccattattg tatagatacc ttactgtctt atgtagttat gaaaacgctg actattataa 180  
gtaccatatt tattccacta acgtttatgg ctggtgtata cggaatgaat ttccctcgaa 240  
tgccagaatt acattatgga tatggatata ctatcttttg gtacgattgt tgttgaagag 300  
tttctcgta aagtatatac atgattgaga acggaacata agttgatggc acttgtcata 360  
gttgggcttg aaatatttat ttt 383

<210> 546  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B10

<400> 546

gttgtctact gctcgtcatt tcgtaacggt ggtcggcttt ttacgacgac gtggtggttg 60  
 cttcctgtcg aaaccttttt gtactagagt tgaagaacaa ggaaaactta tagtatccga 120  
 aaccgaagat gatacccgat tagatcgttt cttgagacgc cgtataagta gattgcctca 180  
 gtctttatta gaaaaatata tccgaagagg agttgtaaag atagatgggc aagtagtaaa 240  
 gaaagctggg gaaagagttc gttcttcttc cgtggtgtat attcctagac aactagaaa 300  
 cttggaggaa aacacagggg acgacaatgt ggagaatagt cgtctccctc aggggggatgg 360  
 cgctatgatg atggacagaa agaaaactac cttgtctacc caagtaacaa at 412

<210> 547  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B11

<400> 547

gaacgcacgt ttaaataggg ctcaaatag acacagtact tcaaaaagt accgagtttt 60  
 gttggatgcg ttttctttaa taagtcagtt cgcggaacgc tcttccctgt ctcaagagagt 120  
 agtggacaga gcacaggagt tgttcaaaat gtatttcgat caacttactt tgaaccctcg 180  
 aggtggtaga actcgttatt tgaaagaaca cgaaactact gcagttgctg cagcatcgct 240  
 tcagtgggcy gcgcatattg aaggagttcc taggagcttc aaggaaatga cgagtacgac 300  
 gcaagtaccc aaaaagactc tttcagatac ttatctgaaa atgacacaaa gtctcaaact 360  
 gaatcagctt aataagagta cggaagactt ta 392

<210> 548  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B12

<400> 548

ctttgatccc actaagtgga ccttgcgttt cttgagctgg tttggtttgg tgaagcgctt 60  
agttcgcttt tcgaagaatg aggtgaagaa ggcgaggtta caagttgagc agcagaatct 120  
tgaaaagcag atgaaacagt tggattgggg aaagcctctt gaaagtcttc cagagatgac 180  
ctgggaagat attgaagcac aagtagagaa gggtttatat cttgttgta tcgatggact 240  
ggtatataac gtgaccgatt ttcctccgaa ttcacctggt gggaaaaagg atattgaatt 300  
tctggaaggt cccgatgcta gccgtgcctt taaggaagaa gtttaccgtc atagcaaggc 360  
tgcaacgaat ttgatggcac attatcgta tgcaaagttg gttgagaa 408

<210> 549

<211> 355

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B2

<400> 549

cccacgcgtc cgggtgttcc aaagctggac tccatatgtt gaccaaagt atggctttgg 60  
aatgggggtcc ttataatatt caaaccaatg ccatcgctcc taaggtaatg tggaccgaaa 120  
tgggacagcg cgtgtggggg gctcctgaga aacacgaacc tatgttggca cgtattccag 180  
cccatcgttt tgtaaaaccg gaagaaattg cagaattgac cgtatTTTTT gctggaccag 240  
gctcgatat gatttgtgga cagactattg ccgtggatgg aggattaact gtgcattgac 300  
tgaggataga ctggagcaat aataataaag aatatcagga aatgtttgta tggat 355

<210> 550

<211> 309

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B4

<400> 550

acccgtccga agtcgcatgg ggggtgttgt ggttgcgaaa tgggtgtacag tcgtttgtcc 60  
ttgtcgtgtc acgctcgatt tactttgcag tgtatcatgg cttctagatc ttggaacata 120  
gtttaggtgt acgactagtg taacctttag cagggaaggg tttgtacatg ttagccctct 180

tttcatacat atgaacattc tcgaagagtg taagcagaga cccagttgta aagactgttg 240  
 cgtcttcaca taacggacca aagttcggtg atcttagatt ctccaagttt tcacggggcg 300  
 aacgagttt 309

<210> 551  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B7

<400> 551

gtccacatt ccgcgtccac ccacgcgtc gaccacgct ccgaagcat tcaagcacct 60  
 cttgaatgga tatcatttct atggacaagg tataagaact aaagtcactg gacaattccg 120  
 tggaacaaga ctgcaataaa ttttttgaga atggaaacaa gtcacctgga cttagagcaa 180  
 gagagaactt gcacgacatc atacaacttg ctcaagaact acgcatagag atataagcga 240  
 cgaaacaaac tgaaaagtga tactttcaac tgtgcagaat caacatggc ttgtgaaact 300  
 attccagttt ttgaaataaa aacctttttt cttttgtaac ccaagaaaaa caaactttta 360

<210> 552  
 <211> 94  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B8

<400> 552

gaaagaggca aatacgggaa agcagtaaaa gaagaaagag aaaggaaaaa actgagtatc 60  
 aagaagaaaa gaaggaataa attaagaaag aaag 94

<210> 553  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C11

<400> 553

cggacgcgtg gggttttttg agatcacaca aacacttgta cactgaatga acgacgtatg 60

ggtactaact gtgcattttg tatagatatc aaggatgtca aatatgttat caactacgat 120  
 ttccccgaata ctatagaaga ctatgttcat cgcattggtc gcactggtcg tgctgggtgcc 180  
 cttggaaaagt cccatacgtt tttcactccg gataaattcc gtggtgcgaa agaattagtt 240  
 aacttggtgc gagatgctgg acaggacatt cctcccagat tggctcgttt gataaaaact 300  
 tcgtcccttg gcggtaacaa cagaaacttt tctcgttatc caagttacaa ttctcggggc 360  
 ggctcatttt caaataatgg a 381

<210> 554  
 <211> 105  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C3

<400> 554

gatgtatgat gcaggcaaag aagtgcgca gtagatcaga gagtaacaca tgcaagtagg 60  
 taaagcgaac ggggtagtaa agaggtgtga aagattggaa gacca 105

<210> 555  
 <211> 175  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C8

<400> 555

cgaaaaatga tctcttccag aacatcaacg tttgctatct gctgtaaagc aactagaaga 60  
 tggtcgtact ctttcagact attatattca caaggagtct acgcttcacg tggaagtgcg 120  
 tctgaggtgt agttgcaaaa tatttcagcc tctagtttac tttaccctt atttt 175

<210> 556  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C9

<400> 556

gcaggatatg ttacaaaatg ttccggtgaa ggtatttact ttgcagcgaa atcgggacgt 60

atgtgtgcag aagctattgc ggagatttct ttacaaggag aaagaattcc ttccgaatcc 120  
gaactgaagg cgacttatct gaagagatgg gatagcatgt attggctcgac ttacaaagta 180  
ttggatgtat tacaagcagt attttatcgc aataatattg ctcggaagc atttgtggaa 240  
ctttgtgaag atgaatatgt gcaaaagatg acttttgatt cctacctcta caagacagtt 300  
gccacaggaa atcctttgca agacgtaaca ctagtgtttc atacattggg agcttttgca 360  
agagcaccgc ctttggcacc ttgaaaataa aaaagtgtgt ctttgggtg 408

<210> 557  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D11

<400> 557

ttctgttttc ctattggcgt catgtttgta acgttatctc ctgcagctga ccgtatagtt 60  
ggctctaggaa acaagagagc tttatgtttg caaagtaaaa ataatagaac aagtttaaaa 120  
aggccaattt cgtcttctag tcaacttttg cgaatgactg gagctacttc ctctgcttcc 180  
gatgacagtg ttccagatat gggaaagaga atgttcttaa actatgtctt gcttgggtgg 240  
gcttccattc caatcttctc tatgttgggt gggtatgcat actttttcta tccaccctct 300  
cgtgggtggt cggttacagg tactgttgcg agagacgtgt tcggacgaga aataaagaaa 360  
aaggaatttt tggaaacgag gaaaccaggc acgcatgagt tggtaacaagg acctaaag 418

<210> 558  
<211> 193  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D3

<400> 558

gagccaagaa actatggacg cagaagaact gcagcaaaga aaaagcttga ataagacaaa 60  
cgcacagagg cctggagccg ctgccgcgcc ctctagctga atgtgatggc accaagtgga 120  
gaacaagtaa tatgttgtgt tgactgtata ttctttcgct ctgataaatt gtcaacacgt 180  
gttattttgtc cgc 193

<210> 559  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-011-Q1-E1-D4

<400> 559

agtagatgag gaaagaaaga tcaaggaagt aagagtaaga gaaggagtaa tgtgaatgaa 60  
 nagcaggaaa gtatttgaaa aaaaaattgt aaagcgcgta cctttttgca aaaatgtccc 120  
 agccgagtga aagaggaagc aaaaagaana gaaaaaaaaag tagccacggt aagacccaaa 180  
 gccagttgat cttaggccgt ccaaaccaag taagggtgaa ccagtaactg tggaaaaaga 240  
 tttggaagaa atgggataaa gggtgaaaag ccaatcaaag ctagtgataa ctggtactcc 300  
 tcgaaaagct atataagtag cgtatgcaag gaaagaagaa ggtaaaggaa gagaaggaag 360  
 aaacaaagag ggactatg 378

<210> 560  
 <211> 71  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D6

<400> 560

accacgaca tccgcaggac gctgtgggtc aaccggcgga tctctgcacc ggtcccatgc 60  
 tatgtgtacc a 71

<210> 561  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D8

<400> 561

caacaataaa caaatcccc caatttcct tccaataatt tgaatttgcc aaaaatccat 60  
 ttgcaggacc tctcaagaac cccaaaaaac cttcaacggt aaaaggatac agcattcact 120

atactcaaac ctacactacc gattataccc caagctatag tagtgaataa acccctagct 180  
 ataccagctc caatagtcaa gtttattctt ccccttacca atcctcatac agtcctacct 240  
 atacaactta tccatggatt caaccttgtg ctcaagcttg tgcggggatgc ctttaattgca 300  
 atcaacagta caatttcaac tatccctatg gtcttgataa cctccactgc aacaactttg 360  
 acaaatactg ccc 373

<210> 562  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-E10  
 <400> 562

gacgaggata cccgctgaac ttaagcataa caataaacgg ggggaaagaa accaactggg 60  
 aatcccccaa taacggggaa cgaagccgga aaaacccaac aagagaaacc cctttttttt 120  
 aacgggaaaa aaagagaagt atttgaaaaa agaacagaaa tatctgcagc aagaaaagaa 180  
 caaatttcct ggaatggaat aacatggagg gtgagaatcc cgtttatccc ttttctttaa 240  
 attcaagctg cgttacgata tttcttggtg tggagtcggg ttgtttggta gtacagcctt 300  
 aattttgtgg gtgttataaa tcatccaagg ctaaatacgt aaaccgagaa ccttacctct 360  
 ccaagaaggt gttgcacggc tgtcg 385

<210> 563  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-E11  
 <400> 563

gtatttgatg gagaaggcgg ataaggaaag agaaggtcga aagattccgc gtgcaaatat 60  
 tttaagggat ccttttgtcc ttatcaactt gagacactat tgcattgctg cgcattggggc 120  
 ttactcgga agtggtaccg atatttgctc caaacgcca ctgatggaaa gtgacattgt 180  
 tcagtttcaa cttgtatcca aacaagaaca accagcttat tatttagcag tagatcattt 240  
 gacgagaaac attgtattgt ctatttgtgg aacgaagagc ttccaagatg ttcttaccga 300



cgттаатгта gagacgacag aattttttгга cgгттатгса ссааaggгaa тggtagcttc 360  
tgtatattгг ttacaaaatc aagtttttgca таacatct 398

<210> 564  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-011-Q1-E1-E12  
  
<400> 564

cccacгсгtc гgacaagaca aagagtггat aatatггtac агсgagtaca caagctгacг 60  
agcatctггt cctttttata ctгggгсgaa caaccгagag тggactatat cgттгctгag 120  
gatgaagcaa гттggгaaaa гттгтггaga гgaaaacгсг аггтсattгг atatactттг 180  
gaagcagctt tacagaaaac ttgtattггt gaaaaccagt тgagggгagtг gaaaaagaaa 240  
ctcгatagtc tagcagacaa ttattcггтг ggtacгagag cctatгatгc gagaatгггг 300  
tcattгgacc tcatгcaac tattatгagt гtctгттгг cagttttггг aatгттггca 360  
caattctттг гттattatгt tcaattгccc atttacaata тgggaaatг 409

<210> 565  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-011-Q1-E1-E2  
  
<400> 565

gcacaacatt гggттггтсt ctгггсгcca таатgaacaa гсгсattггt сgгаатссag 60  
tagттгггaa aaactacctt ttctгттггг aaaattгcaa сттгггactt гггaggaacc 120  
aanaaacaat gatacatatt тсgagagттt attagagaat aatгcaacгc cattгgaccг 180  
catгgatгtc тtagacattг таатгттгг tagctгagt ггггсгтта taggattгca 240  
гстттattгt ttггсгсact ctггсгatct тсссттгсг тттгттгсac тгггatгггг 300  
ттгггсггta ngaggтсtaa tagtatatcc ttatagtгга aaattatггс агtatctгca 360  
тсgaactтсt тггсттсгag cactгттсc agaacaagca acattттсat agaaacagag 420  
gaagaat 427

<210> 566  
 <211> 317  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-E3  
 <400> 566  
 gaaggagact ttgaaggaaa gcttcataca gatattgagc ttttggaaga taacacaatg 60  
 aggagtttgg ttcagcaata tgccaatgac caacagcaat tctttaatga cttttctgag 120  
 gtgtttggaa aatatatttc tagaattcat tgcaatcaaa cttccacagg accttgccg 180  
 ttggatgaca tcggtgtacc aacgtctgct gtcctcac cgcagtcggc tgttccttca 240  
 ttttcggaac ctagtttcgg ggcccccttc tgggactagt tttccaaact tttgatggtg 300  
 agccctcagc tcaatca 317

<210> 567  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-E7  
 <400> 567  
 agaagatgaa ctgttgcaga agggaaagaa cttgttgctg gaagttattc gtgttcctta 60  
 catcagaaga gctcttttga taggaatcat ggaaatgctg ttccaacaaa tgagtggcat 120  
 gaatgtgttt atgaattata ttgatgaagt ctttcaggag aacatcaata tggggccaag 180  
 aacttcgta gctataagtt tgttcccagg tttcgtgaat atggctgcta cggtcattgt 240  
 atactttacc atcgatcgat atggaaggag aacattgcaa ttggttactt tccctgtaat 300  
 gttttctcatg ttattgatgg ttctgttttc cttttacgga gataagaaag tgaatttagc 360  
 cttctttatt atcggagtta tattctttat tattgcctat agtcctggtg ctggctctg 419

<210> 568  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-E9

<400> 568

acaagactct aaagtgagtc gtagtaatga agacccatgg tccggactag gcatcagagc 60  
cttgtactgt tcaacaacac tggcaaatca gtaacagaga ttgcaaactc atagtatttg 120  
gcgcgagtc cggtcacagt cagtgaatct catgctgtgc atttgcaaca tccagttgtt 180  
ggtaaaggca gaaagagcga ttataggaaa tattagctgt ccaaaaagta tcgaattgtg 240  
tcctcgatta gctggacata atagcacttt ggttccatga acatttggtat gactttcgtt 300  
tggaagctat cttgggagca ctattgtgta cgtgttagtg tgaattgaaa cgttttgaag 360  
gacaattggg ggtacaagaa tggaatg 387

<210> 569

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-011-Q1-E1-F11

<400> 569

ctctggccgt ctacagattt tttctgacat actattggaa aaggatttca cgtattagag 60  
catagtgaat ttttgactg tacagttttc agttattcaa caagcaacag actacgagtt 120  
tgctgttctt gtggcacgaa aaagcctcta cgatataatc acgtattcat cgtgagcaca 180  
gaaactaact aacgcagttg agaatgtctt atttttgggc tacagtagaa gccggcttcg 240  
gaccgagctt cgaagagcaa gactgtgatt acaatcaaaa gaacacaagg ttcaactttc 300  
gagctcaaat gcttactttt accaaccagt cgcccaagat ttatgtntgt tgccgaagcg 360  
gcgaaagtcc ttgttctctg tctactgtnt gctttgggtg gaccaacatg 410

<210> 570

<211> 173

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-F12

<400> 570

gtgtagaaaa ggcgatcctt gaacgtaaca aacagagttt tgccaataaa tcaactcacg 60

agataccaaa agccataatt tttgggcaac aaactgcaag aagagcagaa atgcacaaac 120  
 aaaaggaact tcaaagccaa gaagaaatcg aactgggtgag aatccaatgt taa 173

<210> 571  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-011-Q1-E1-F2  
 <400> 571

ccgccctttt tcttttggga ttcgcgatga gctcccaaag caagcgcac tcgtgttttc 60  
 tgtccgtcca acctttgtgt tcaacacttt gtcattgtgg tanagttgtt cctcggtcgt 120  
 ccagaaactc aaacgatgct ccttgtgggt cctcttttca tttatgtcgt ggagtgaaaa 180  
 ggactctaca ccccaaagct ttgcaaccat tgagtggtag aaacagattt tcctccagct 240  
 tctcagaaaa caattcgtct tggagaagga acaaaaatct tctaaaggca gcagtgcg 300  
 aaatagagtc ccaagaacaa ctagatcaag aactggaaaa ggcgggattc aaactaacga 360  
 tcgtggactt ttgcactaca tgggtgtggtc catgcaaagt tgttgcccc aatatgaag 420

<210> 572  
 <211> 240  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-F3  
 <400> 572

tcacccacg cgtccgattc acctagtcaa agcaccccat tgttgtactc ctacgagttg 60  
 gaaccaacac gacgacgatc gtaccaactc atacaagact tggataaaca cccgtcgtga 120  
 agctcaggtc acgccatcga ccgcataaac agaagtactt gcacacgtcg cattggatgg 180  
 tcacgcgaaa gcagagatga ataccggaat cacgttctta gaccaaagt tgtgtcaa 240

<210> 573  
 <211> 445  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations

<223> Clone ID: LIB190-011-Q1-E1-F4

<400> 573

gagcaaacaat ggaatgacag atattattga ttgatgaaaa ttcttccgtn tttccctaag 60  
ttaaggggaaa gaaaatccaa cctccgttcc caaaagccaa tccctttgga gaagcaaatt 120  
tgcctcttag aaaaatactc gagtctttga ttcattccct gaagcataaa tagtcgtata 180  
tcgttatcat cgcacncgt aacgataatt tgttcacgt tggcataga aaagtctaatt 240  
atggtatctg aatgtccatg aaatgttttt acacaactat tatttggtgc tgttcttata 300  
tcccataaac aaagtgtatt atctgcagaa gcggataaga caagaaaaaa aaaaaaaaaa 360  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 420  
aaaaaaaaaa aaaaaagggg ggccc 445

<210> 574

<211> 101

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-F5

<400> 574

cccacgagtc cgaacaagt cgaaggagta tggaaacagg acggccgctc gagtcgttcc 60  
aaggtaacgt agtcgtgcaa gcgacgtcat aactcttcaa c 101

<210> 575

<211> 416

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-F6

<400> 575

gtgcgttggt agaggatagt gaaattagac agcttcccaa catagaactt catctgaaga 60  
atgatgtgga gttggttttg gagccagaag actacatggt aaaagttgaa agtccaaacg 120  
tctcaccgg tgaaatggaa atttatcgtt gtttaggcat tcattatatg caacatttgg 180  
aacgaatggg aatgatatg attttgggag gaactctttt gcagcgttat tacactgttt 240  
acgatagaga gcaaatgcgc ctaggatttg caaaagccaa aagatggtct gacgtgaagt 300

cattatttga tgaacaagg caaccgaaa tggaaaatga tactaatgta gcaactccgc 360  
agccatcccc agcaacatct aacaacacgt ccaaccacg tactaatgaa gaacaa 416

<210> 576  
<211> 358  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-011-Q1-E1-F7  
<400> 576

ctgcggtgaa cttttcaact agtcttcttg taatttgttg ccatgggtct ttccaactcc 60  
aagttattaa cccgtttatt tgggaaaaaa gaaatgagaa tccctatggt aaggcttgat 120  
gccgcgggaa aaactaccat attatacaaa ctcaaactgg gtgaaatcct cacgaaaatt 180  
tccaacaatg gggtcaaact ggaaaacctt taaaacaaaa atatccattt taaagggttg 240  
gaactccgtg gtcaaaacaa gatacgaact ttgttgcgcc acaaatttcc aaacaacca 300  
gggtacaacc tcctaattga caattaccaa aaaaaacctt ttcccaaac aacggaag 358

<210> 577  
<211> 280  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-011-Q1-E1-F8  
<400> 577

caacagcaat gtgtaaagta tgtgggtcaa caagttatcg cacccaaaca atgtgtcaag 60  
tactataccg agcagaagat tcaacaaaag tattgtcttc ggcaagttac tgaagaagaa 120  
gtacaaagca agcagtgcac caagtatgta tctcttcaga agatcaagta cgagtcttgc 180  
tctgtcfaat atgaagttca aaagaataag cagcaacaat gtactatgac agtctctgaa 240  
caatacatat agcccgatac ttgctaaaag tatgttcctg 280

<210> 578  
<211> 286  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-011-Q1-E1-G1

<400> 578

cacacgcgtc cgcccacgcg tccgcggacg cgtgggcgga cgcgtgggat aaaatggcca 60  
aagtaaacc cgtgtcgtcg gtcctaaac taagtgtaac tagagagata gctatcggta 120  
ttgggcttgg tatagcgtgt gctatggat ttcgccagtg gcatctcgga tacacggaaa 180  
tgataagaaa atattatcgc gagttggatg aacaagaaca gagttcctcg tcgtcgtgaa 240  
aaccgccttg tgtttgtgag atagcaataa agtggactct tgtttc 286

<210> 579

<211> 398

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-011-Q1-E1-G12

<400> 579

gtggaatgtg ttggaggaga acaaactttt tgtttgtgg atgccttttg attctctcaa 60  
caacaggttt ttgccattgg aaggaataga aaccaaggca gtattgatat gtgatgacga 120  
catgtttgtt catcacgaag acattgctta tgcatttcag atttggaaac attctcgaga 180  
ctcgttggtt ggtttctttc ctcgagcaca taaaaaaatg gaagacaatg aatatgaata 240  
cttgacacat attcctatgg acggtggaca cagcagatat tctattatgc tcaactaaaat 300  
agagtttatg aagagtgaat atttattttg gtattcctgt gcattcgata ggagagtttt 360  
acagtggatt cgtgaacaca agaactgcca agacattg 398

<210> 580

<211> 444

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-011-Q1-E1-G2

<400> 580

gtccgcacca cgcacccgct tctaccagaa cagcagtatg tgaaaaacag agggaaacca 60  
agaagaagag ttgcaagga atcaacggaa gagaaacatc cgacgagaca caagttgaat 120  
catgcaaaac cagagataa ggagattttg gaagaagagg aaatcttcaa ttactagaa 180  
gcttttagaa agtattttcc agaaccaccg agcaacttga gagctcagga aataattgaa 240

agtaggtctg gtaggttctt tacggagaaa gaacagtggg agctgtggga aaacgttttg 300  
aagccttgga gtcaaaaatg gtactcagaa aaggaagctt tcttccgtaa tgctagagcg 360  
agggttttaa acactccaag tagccaattc attactaaag aactggcaga ggaatgggcc 420  
aagtccttcg ttcaagtaag ggag 444

<210> 581  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-011-Q1-E1-G3  
<400> 581

caacttggtc actatgattt tgttgttctc ttcaaagtca aggagttttt agtaaacata 60  
ttcgttccct tagctttaca attcatggac acctgttgcc acagtctttt gtctgcaact 120  
ctcttgaggg gtttccccga gtcgttacca ccaaagtttt tgggtggagca cctcgaccag 180  
ttgcttggtg tggacctgcg ttgctctcaa ctgtacagtt tgggacacat tagaggttct 240  
tacagtctcc cggtgaagaa gaagaagctt ctgaatagtg aggttgctga ctctgatgtc 300  
cacaagtggg tacgaaaact ttccaaattc gtggatgaag aacggttgaa aaagaattgc 360  
gtatttcacg tggttcttta tgatcattct tcgacagaga c 401

<210> 582  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-011-Q1-E1-G4  
<400> 582

tcgaccggac ccgctccgag acgcatgggc ggacgcgtgg gcggacgcgt ggggtgggggg 60  
aaagtatgga tcctgggcta aaagcgttgc aacttcaccg ccaacgaaga aagcgactgg 120  
aagagaactc agttgatcaa gaagcaactt tgggggatag aaactacgaa gacgaggata 180  
aaaagacttc aagtcaccgt tacgggacca caattgaacg accttcgttg tatgaagaaa 240  
cgggaccgtt tgctttcgaa aaaaggagtt atgtgaagaa aagaaagaaa tacaagatt 300  
tttatgatcg tcaaacattc aaatcacaag ggaacgggtc cacttccagg gaaaacggaa 360



aaagcgttgt agaaagttcc tac

383

<210> 583

<211> 77

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-G5

<400> 583

cacgagtcog aacacgcgtc cggacgaatt ccacatcgcg atcagggaca cgcaatcaag 60

tagaaccgta ccctgat 77

<210> 584

<211> 424

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-G6

<400> 584

cttggttgatt cattacgaac acaagaattg aagaattgaa gcgactagtc gggttggaaa 60

tacaataata tgcagtgga acccactgta gcctatgcag ggagccgctt ggaacaaccc 120

cacgtgaata ggagtatggt gcaaactcct gcgactttat tcggagattc gcagtatcct 180

ttgaggcggtt cacagagtgg tagtaagcta aaagtcacgc aagaactaag ttcgcaaata 240

aaaaacctgc aaactgagtt ggaaagagct tacgaagaaa ttgaccgctt gaagagtagt 300

tggaagggat cgaagggtcg tgagttcgtg aaagggtcaa caggagaaga accagttgct 360

tcttccattc ggcaatacca gaacgtttct gaccaagata ttggcaagag gagcaaagga 420

aacc 424

<210> 585

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-G8

<400> 585

aggacgcgtg ggcggacgcg tgggcagaaa caaacggtca tattgaatga cgaaacagtg 60

gagcagttgt gtagacaagc cttgtgtcat gcagcagctg gtgcggatgt cgttgcacct 120  
 tccgatatga tggatggtag agttggagcc attcgtcggg ccttggatgc gcatggatac 180  
 agttatgtga gtatttgttc atatactgca aagtatgctt catcatttta tggtcctttc 240  
 cgagatgcac tggaatctgc tccagcagat atgccatgaa ttacaaaaga ataaaagacg 300  
 tacaaatgga tcctggatat gcctgggacg cttgcagaga aatggaattg gatgaacata 360  
 aacgtccgga tatgctcatg gtcaagccgg gattgcctta tttggata 408

<210> 586  
 <211> 240  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-H1

<400> 586  
 acactatgtc cgacaaaaca atatggagac taagaataag aaaactatca cagtgataga 60  
 taaccagact ggacaagagt taacgcttga ggtgaacaat aacactattc gtgcagttga 120  
 tttggctaaa cttggagtca ctgtatatga ccctgggttt ttaaactctg cttcttgtat 180  
 ttcaagaatt acttatattg atggagacaa aggcattctt cgttacagag gctatccgat 240

<210> 587  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-H10

<400> 587  
 cccacgcgtc cgccacgcg tccgggaagc tatcttgga gcactattgt gtacttggtta 60  
 ttgtgagtgg aagcgttttg aaggagaatt gggggtacaa gaatggaatg aattggagaa 120  
 gatattcttc ttagatactt ggaagcttgt gcttggtaca agacaaagag tggataatat 180  
 gttacagcga gtacacaagc tgacgagcat cttgtccttt ttatactcgg gcgaacaacc 240  
 gagagtggac tatatcgttg ctgaggatga agcaagttgg gaaaagttgt ggagaggaaa 300  
 acgcgaggtc attggatata ctttgggaagc agctttacag aaaacttgta ttgtggaaaa 360  
 ccagttgagg gagtggaaaa agaaactcga tagtctagca gacaatta 408

<210> 588  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-011-Q1-E1-H12  
  
 <400> 588  
  
 gacattgcgc gatttgaatt tccttggaga tgtatggaga ccaggcaaca gctctcgttc 60  
 atcatctgta taagagttca tcgttgcctc cttacaaaga agatgcagtt cgtcaagtag 120  
 tgcaagaaat agaccaactc tatgcccaat tagtacaact tttagaaaca gccaacaacg 180  
 accttagtga cccaaggata ggaggaacag ctatattctt tcatcgagtc attcttcgta 240  
 ataagcgatg tgttcttgca tacttacttc ataggtttta tcgtttgcgc gatagtagat 300  
 atctcgtaat ggatgaccga atagaagaaa atttaagtgc ttctgaacaa gaattgttga 360  
 caaactatga acaacttgta gccagctaca gtgataaggt gcaaatagac attt 414

<210> 589  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-011-Q1-E1-H2  
  
 <400> 589  
  
 tccaccgacc cgtccgaact cttcaaattg tttggaagct acatcaagtg cgcgagagga 60  
 caatttggct tttgaaaagt tcacttcaag tcctatgttc tccaatgttt ccaactcactt 120  
 cacagagtca caaagggttg ttgcatcctc gcaagctgca gagagtattt cagaagactc 180  
 tagtgactcc gagtgtgaat atgattttat tctgaagaaa gacagccact caaaaaacga 240  
 aacgactgaa agagaaatgg gagaaccaac aacacatttt ataaataata atgaatcttg 300  
 aaaatacaca aaagtagaca ctagtcagag agtgcagtat acttaagaat tttcagagac 360  
 catggactct gtctcggcaa gaaacatgtc tttagctatg taatcgattc ttctgatggg 420  
 ttcctagtct tcaaacagaa accaaagaat aa 452

<210> 590  
 <211> 429  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-H3

<400> 590

gatcttcctt atattctttg tgcttggaca atggttgcaa agactgctct gagttgcctc 60

tttctctctt tccttatcgc tgcgcgagtt gcagccgacg tagtttcaga ggagagatgg 120

ggatatgctc agcaaaccga acaacagcaa cagtgcacac aagtatgtaa acagtatgca 180

tactatcaga gtccagtctg cacttcgta accacacaga gcccatactg gacccaatgc 240

tcgaagactg tgcaaacctt tgtcccaagc cagtgcagta cttataccca atctcctaca 300

tggacctatt gcagcaccta caccaccact agcgtaacat ctcaatgcag caaggccgtg 360

actacctata ctcaaacctg ctgtgcttat gcccaacaaa ctctctatgc agtcagtacc 420

gagcaatat 429

<210> 591

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-H5

<400> 591

caactgagta aatggattgg taccagtcgt cccaatgttt tgactgccta tagtttcttg 60

tcggttcttg atatttatgc tatttataaaa gaattgagag ctgttcagtt ccgaactttg 120

aattatgaac gttcaagtat gattgtggat tattttgttc gaagaggata cgcttcctaga 180

cctgatgaag tcagccaaag ggagaatata tttcttgac ctcggttatga cgcttcgttct 240

atgtttgctt ctttgctcga cgcagtttct tgcctcaag aattgaatag tttggtcagg 300

actttcaaag gagagcagtt tatgggtgact cgaacttggg acggtcagta tcgaatcgta 360

ctacgagaac atgctcgcaa tagtgatatt ttacgagcat tattgac 407

<210> 592

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-011-Q1-E1-H6

<400> 592

cggacgcgtg ggtctgcggt agaacatatg aaagaagcag caccgactgt ttagcaaaaa 60  
cacagcactc tgcagaaaag agaaaatgta aagtatagag tgtgcggcct gccaaatagt 120  
agagaagaaa tcgatgaaag tgaaagcgag taaaagatga ggtatagaga atggcggtcc 180  
taactgtaag gatccaaagg tancgaagta aatagacggt tgaaaggcgt ccagtatgaa 240  
aggagaaacg agtgtagcac tgtctagtcg tccaactcag cgaaacagca ataactgtga 300  
aaatgcagta aactagcagt aggacggaaa gachccataa ttcttgacta gataggttta 360  
gggaggagag agaatcatga agtanaggag gtggggtaag agatgaaaga ccactgca 418

<210> 593

<211> 304

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-H7

<400> 593

cccacgcgtc cgatttcaga tgcttttctt gtttgtcttg ccttttgttt gtttcaaact 60  
tttctttctt gtgattgtgc caacgtgttt ttttgtggcg ccttgctttc ccgacatttc 120  
agctgccata agatctcacc tgtcgggtcc tctaagaaag acaaagaaac tatgcaagtc 180  
agggtcaaagc cctctcgttt catggttctc aaacacttct ccgaatactt ttgagttgga 240  
agatgaagat tctggtgaag aagaacaagg agttgtttac aaattggaaa agaactcggt 300  
aaag 304

<210> 594

<211> 338

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-H9

<400> 594

ggaatgggat cgatgtattg tttttcacaa ctgttagaag ctttttgttt gatagttcca 60  
ttttttatac gaggaccaac ttcaggacat tctccttctt tgatattgaa attggttact 120  
ttgagtattc tcgcattgtt tgggtatacct tgggtctagta caatgactat accttgggcg 180

ttgatgggta ctgctgtgta tcgagtggat cctaatacgaa taggattata ttccaccttt 240  
 ttcaatctaa gtcagtcagg acctcaattg ttggatatctt tgggttctcc aagaatcgta 300  
 cgaaagacgg gggatgttaa tgtggtttta ttgttggg 338

<210> 595  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-A10  
 <400> 595

atthttgcaca aaatattcga cgtcgccatt gagcagccgt gatgggacgt gtaatacgag 60  
 gccagagaaa gggagccggt agtgtatttc gtgcgcatgt cgtcaaaaga aaaggagcag 120  
 ccaagtttag agcgttggat tatgccgaaa gacacggata tctaagagga gtcgtcaggg 180  
 aaatcataca cgaccagga agaggagctc ctttggtctg agtggaattt agggatccgt 240  
 atagatataa gagaagagta gagactttta ttgcaccaga aggtttatat acgggacaat 300  
 tcgtgtattg tggaaagaaa gcccaactag caatcggtaa cgtccttcca cttggttctt 360  
 tacctgaagg aacagtcggt tgtaacgtcg aaggtaaaat tggcgataga ggaaaaat 418

<210> 596  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-A12  
 <400> 596

agattgggttc cttgggtgca gctgccattc ggctgagcat gataacggac ctttttattg 60  
 taaaatgagc tactgattca gaacaagatg ctgtcgtttg ccatttttca agtgagagtt 120  
 gcatttattt gccatgtttt attgtttgat ataggaaaat ccaagttgta tcttcagtcg 180  
 gggccagaat agtgacaatg gtagaaccgc tactaccagt tcccttttta gctattcaag 240  
 tggccttgcc atacccttta gggcgctcggc tcgtggtggt agcgctcgcta aagtaggagc 300  
 taaggcgacg taggctttcg gcgatggaca tacgaacgcc catcactcct ctgaaaaccg 360  
 acctgccaga ataaatcctt ataaccaggt ccagtaccag cactgcgaag attcactgtc 420

aaaccc

426

<210> 597  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-012-Q1-E1-A2  
  
<400> 597

aggaaatagt acaactagta gggaaggact cgctggcaga aaacgataag attacgctgg 60  
aagttgcaaa aatgatacgt gaagactttc ttgcgcaaaa ttcgtttact gaatacgacc 120  
gattctgtcc attttacaag agcgttctca tgttgcgcaa tatgattcat ttttatgagt 180  
tggcaaataa ggcagttgaa ggatccggtg agcaacatct aacattggcg cagataaagg 240  
aacaaatggg tgaaaccatc tacaagatat ctggtatgaa gtttttggat cctgcacaag 300  
gtgaagatgc ttgagaagt aagctcgatg cactgtactc ggagataaca gacggctttt 360  
acaaaatgga gaatagcctg tgacattaata 390

<210> 598  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-012-Q1-E1-A3  
  
<400> 598

gggccacgcg tccacccacg cgtccggtct agtgggtgcc cctgcctgtg gagatgtcat 60  
gaagttgcaa atacgagtag atgagacagg gaaatagtag aaagtaggtt caagacattt 120  
ggttggtggtt cagctatagc ttcattctct tatgcaaccg agttgattcg aggaaaaacc 180  
ttggaagaag cgagtaaaat taagaataag gaaattgcag aagagttgaa gctaccccca 240  
gtgaaactac attgtagtat gttggcgga gatgctatta aagcagctgt caaagacttg 300  
caaaagaaaa tgggtgcttc cagtgcctaa aagacgatgg aagtttctag tctttctctt 360  
cctcctttgg tgtggagaag agttgtgtg 389

<210> 599  
<211> 387

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-A4  
  
 <400> 599  
  
 agtgagaata tgcgatcctt gtcgtctggt tggttgtatc tatggagtgg ttggacaagc 60  
 caagttactt ggagaaaaac gttttctacc gcaataccta ccaaaacgac aagtcgaggc 120  
 acatttgttc tttcgcagca aggaaagcct accaatcgtg tattagatgt gcttccagcg 180  
 gggtttgaac aagcaagtgt tcgagagttg acggtatatc ttcgagatga cttggacagg 240  
 tggtcgctga agtgggtccaa gcgtcccagt gattagtaag tgagagaaag agagagcatt 300  
 gagtataggg aaacttgaag aatatagttt tccaggttct atcatcgggtg gtccctggtcg 360  
 aatattatct ttgggggtgtc ctggcgt 387

<210> 600  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-A6  
  
 <400> 600  
  
 agaagtataa aaataggcaa agaaaacttc gagagtcccg aattctgtgg gacacggagg 60  
 aagcaatcag aggcattcgt gggagcggtt tgaaggctca cgcttctatg aaaatattta 120  
 tgtgacttga gctcattttg cttttcgagt tgtcctagcg aaagcagctt ccggtcacgg 180  
 tttttcgaga acgagttgtg agtttcataa gaatattcgt ttcgacgggg aaatatttgg 240  
 ttcagagcta ctagtaagaa aagagtcact cggaggcaat tggctactaa tttagttttc 300  
 aagaagcttc atggaggtat aaaaactttc cactgtaaag aaagtcataa attacttggt 360  
 tgaaatttaa tatcgttatc tgaagctttc atgagctggc acaactgcag ctttcgt 417

<210> 601  
 <211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-B1  
  
 <400> 601



agcgtcgaaa ccacgtaaca aacctgcgct tctcattcca ggaggaaaag tgatggttcg 60  
gacgatgttc actccaagtc tagtagtatt cgtcgcaaac tttatgcggc atctcggaat 120  
cggaacttta acaggagaaa gtccgttggt cgtcagtttg taaaggactt tatgaacagt 180  
ccggtattcg aagaagggtt tcataagcaa tcgagtcatt cggaatatcg atggtttatt 240  
cgatacaaac agtacatgac ggctcttcta agtaaaactgg aaacattgca gg 292

<210> 602  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-012-Q1-E1-B12  
<400> 602

accacgcgtc cgcgacgcg tgggcgaaga ctctcaaac agacaaaagt ttgcggacct 60  
acttagatac tattcgacca agtcaccaga tgaaatgatt tcattgaagg agtacgtcag 120  
ccgaatgaaa gaaggtaag actccatcta ttatattacg ggtgaaagca aacaagcgg 180  
tgagaattcg ccttcttag aaaagcttcg acgcaaagga tatgaagttc tcttcattgg 240  
ggagccgatt gatgagtact gcatccaaca actcaaggaa tacgatggaa agaagctgg 300  
ttgcgctaca aaggaaggtc tgaaattgga cgaaacagag gaagagaaga aagagaagga 360  
ggaacaaaag aagtctttcg aacagttgtg cactgttatt aaggaaattc ttggagacaa 420  
a 421

<210> 603  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-012-Q1-E1-B3  
<400> 603

aaaagagaaa agccgtactg aagaccgaca caggactcgc aggagaaagg agaccctaat 60  
taagggtgaaa gaatggacga taaggaacta ggcaaaagga tatgggtatcg gcggtagaac 120  
atatgaaaga accaccaccg attgtttacc aaaaacacaa cactctgcaa aaaagagaaa 180  
atgtaaatta tacagtgtgc ggctcccaa atattagaga agaactcgat gaaagtgaac 240

cctagtaaaa tatgaggtat acagaatggc cgtcctaacg gtgatgatcc aagggtaccc 300  
aagtaaatag acttttataaa ggcctccatt attagcggac aaacgagtgt accactgtct 360

<210> 604  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B6

<400> 604

acccacgcgt ccgtgaaata ataaaagaga gagagcaacg acgacaaaga aaatgaggct 60  
atttcaacgt tggaaaagaa ttggcaacta tttcatctac tcgcaatact ctagtcgacc 120  
gagtagttta tttcaagcag accctaggaa atataatata tattttacagc atcgagtgga 180  
gaaacaccta gttgcccatt ctatgggttg aacatcccta cataatcctc gctgtcttac 240  
aagttcttca tcagaacaac attggaacca agtacacaaa acaacaacaa caccaagtgt 300  
ggataatcat cctagtgggtg aagaagaaaa gagtttggtg ctgggttcctg gtcaagaaac 360  
aaaagaagaa caaggagcca agcgacagag 390

<210> 605  
<211> 68  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B8

<400> 605

aaaagaatgg aaagtaaaaa aaaaaaaaaa aaatgcaaaa agaagacaag accgaaaggt 60  
ttaataaa 68

<210> 606  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C1

<400> 606

cgggccgggc cacgcgtcca cccaagcgtc cgcgcaacaa ttgagttcac gtctgcgctc 60

gatgaagttt atgaagagaa aagaacctga agaaagtaaa cctacgcaag agaatgcatt 120  
 ttcttcaact tcgatttcta cccgtgagga aggaatagaa gctgtagtag ttgatgagac 180  
 aaatgtaagc gttttgggtc ccgaactaaa cttttccagt tttcaaggaa gaagttcctt 240  
 cttgaatttc aatcctcggc ttgaaagcat attgaatgag ttgagaaatg ttgttccaca 300  
 aagtttgaat gcagatacgg aagaaccatc tctggaaggc aaacgacgct tccaaaataa 360  
 cgaaatagta gagaaattga agaaaaagaa aagaaaagtg aag 403

<210> 607  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C10

<400> 607  
 ggtttcgctg cggcgatagg tgcttggtgg aacccatcct cgcccatcga taccatctac 60  
 cgaaacattg caccatcgca ttgctcgca tctccaatgg atgaagcgtc gtcgctggtg 120  
 gtaagccgct tatatgccac ctgggtattt ctttcgaccg ttgtgcgatg tacttttatg 180  
 ctatcttccg agttttcctt gcctctagcc gtcgtcacct tggccaccta tgcgctcgcg 240  
 tgggtgcact ttgcggtgga aatatttatt taccacacgg tgccgttgaa acctggtggt 300  
 caagcacctt tgttggttgc ctcggtgctg ataggttga tgctgtggta tttgatggcg 360  
 atgcggagta caaggaaagc agaatatagg aagaaagcca agacgaaaga aaggtccgcg 420  
 ca 422

<210> 608  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-012-Q1-E1-C11

<400> 608  
 ctctgatgca tgaagttgga tttagtcgag tgcattgcagt atattcaagt atgattggta 60  
 gtggaacttt attgttgttt accattcctg ccatttactt gatggacaga atgggaagaa 120

gagtgtctgtg gttaagttta ttaccaggag tgctcggttg atgtttcatt ataggcttta 180  
 gtttccgagc tagcaacatc catgtcgaag aaggaattta catttgggggt atcataacat 240  
 attatatgtt ttgggggttct ggtatgggac cttatgcttg ggtactggga tcggaaatat 300  
 atccaactta tattcgaagt gaaggaatgg cgctagttac ttggtggaca tacattggna 360  
 actttantac gacttattgc ttttccaaga tgaaaagagc aatgactgct ccaggaattt 420  
 tca 423

<210> 609  
 <211> 271  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C2

<400> 609  
 gggtcggggc acgcgtccag cgaccacga agtgccgca gctatgagta acattggcca 60  
 gattgatgtt attggccttt ttgatcaacg tattgtgtc cttgtagtct acagcgaacg 120  
 gtttttcatt tgcagaagga atattgtact tggctaccat tagacgagca agttcaccta 180  
 tagtacagag ttccgggtct ctgtgtcgaa taacatgaat aaagtctctt ctatcaaagc 240  
 tgtttgtctt tgatagattg gactctattt t 271

<210> 610  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C3

<400> 610  
 actgtaagaa ccttgcccca gaatatgaaa ggttaggaga agcagccaaa aatgtgaaag 60  
 acgttatagt tgcacaagtg gatgcagaca agcactccaa cttggcaaaa cgttttggtg 120  
 tacaaggttt tccaaccata aagtgggtcc ataagaaggt agacaaagca agtgcagagg 180  
 atttttcggg ttccagaaca gcggaagcgc ttgcggactt tattcatcaa aagctgggcc 240  
 gtaccaacgt catccgtttg cctaaagcag aagctcacgt ggtggagctg aatccggaaa 300  
 actttgacaa gattgttttg gaccctggaa agaacgtttt agtagagttt tatgcaccct 360

gggtgtggtca ttgcaaa

377

<210> 611

<211> 113

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-D1

<400> 611

cggtcggccc acgcgtccac aaatattctt cagtaaactt ctggaactat cttggaagcc 60

ttgtcttgag caaaaaaaaa aaaaaaaaaa agaaaaaaaa aacaagggca gac 113

<210> 612

<211> 428

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-D10

<400> 612

accacgcgtc cgacttgatg gaagggggtt cccaacgggt tgccttttagc tatacaagtc 60

tacatacagg aagaacatgc ccaagcggat aagcaacgta gagaactcat cgaagcaaag 120

aacaatgcgg atagtttggt gtattccaca gaaaagacgt tgaacgagca tcgttcaaag 180

ttgtcttcgg cggaaatcac ccaagtagaa acagctatca acaatttgag aaacagtagc 240

caaggtgaga acttgggaaga aatcaagcgc catttagaag aacttcaaca agcagcgatg 300

aagattggtg aggctatgta tcgttcttcc tcgtctagtg gtagtggaag cggtagcagt 360

agcagcaaca caagcaacag cgaggggaaca agcggcagca gcagcagcaa tacttccagt 420

acaatggg 428

<210> 613

<211> 241

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-D12

<400> 613

attacttctc tttcaaaatc cagtcacagg acttggcctt gcaagtattt ggatcgtatt 60

gttgggttct cttagttatt ctatagtacg tcttagagag atgatacaaa aggcagtcca 120  
agaacgttta ccagagaaag tatgaagttg cgtattttat ttttaggaga cactggagtt 180  
ggtaaaactg taagggtgaaa gaagattggt atgtcttagt aaactcatag agttactagt 240  
c 241

<210> 614  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-012-Q1-E1-D2  
<400> 614

acatgcattg tattggcttc tccttggtta cgaaagcact tgggacgttg ttcgggaaga 60  
caaccttgaa tagcagtggg tgcagggtgc tatctacaca agcaacagga gctatagata 120  
tggaagttat tccaggtaaa acgaatattg gttggatcgg tacaggagtg atgggtgttc 180  
atatggccag gcattgtatg gacaagggat ttggaccctt ttatgtttat aataggacga 240  
tgcaaaaagc acagccgttg gtagaaaagg gagccacaac ttgcaactcg cctaaagaac 300  
ttgctcagca ttgtgacgtt gtatttacta tggttggata tcttcacgat gtccgtcaag 360  
taataactaga cgagac 376

<210> 615  
<211> 365  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-012-Q1-E1-D3  
<400> 615

ggtcttcggt tatatttgaa aggcttagtt gcagattcgg aactaaaatc ggaagcaatt 60  
tgtcgtgttc atggaggagg aggagatgtg aaacggcgta gaaatcgat ccgtacgaat 120  
tcctttttat ctgcagtaga caagagctat gcgcattctc gtttttagtcc agcactttcc 180  
gtttaactct gaatttatct ctctttgtga atattctatt ctctgtttg tagaactgca 240  
aagtagaatt agtaataatt gttggtatac gttttccag aaatgcgact agttgttttt 300  
gtgcgtgtgt gaatagtact gggatatatat atatatatat atatatatatac atatataaa 360

atttt

365

<210> 616  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-012-Q1-E1-D4  
  
<400> 616

aaggagttcc tgaagacctc atcgaattgc aaccaggctt tatgcaggag aactggcatc 60  
ctgtttggga agagatagat agtgctaaag tggacttttt actgtcagct ctaaggcggt 120  
tgaatgaaga accagtttta cacaatggag tatggaccaa aaccaaacga aaagtcatcg 180  
ttttttcaca gtttttggaa catatttttt tgatttcgaa tattctggac agacatgggt 240  
atcgatattg tcgtgtgttg ggagcattgt cttatcaagc aaagatgaat gcactccatc 300  
gttttcgaaa cgatagttgc gttcagattt taattctcga ctctacaggt tctctagggc 360  
atgatttgag ttttgtttca cacatattta taatgggaac cggtttgga 410

<210> 617  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-012-Q1-E1-D5  
  
<400> 617

aagcgtcgac gtcgcatttg tagtagtatt gtgggtctct ttccaaccgg tttctccaac 60  
gacgcaacac aaaaatgcct cgtgggtcaa gaaaacatat gaaacgtttg gcagcaccca 120  
aacattggat gctcagcaaa cttggtggta tttgggcacc tagacctagc agtggaccgc 180  
acaagttgcg agagtcacta cctctcttat tggttctccg caatcgactg aaatatgcgc 240  
tcaataatag agaagcagtg gctattttga tgcagcgttt ggtaaaagtg gatggaaaag 300  
tacgcaccga taaaactttt ccagcagggt tcatggatgt gattgaattg gaacgaacca 360  
atgaaacttt tcgtttattg ta 382

<210> 618  
<211> 371  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-D7  
 <400> 618  
 accagctttg gctgttcatg gagacaagtc acagcaagaa cgtgactggg ttttgtctca 60  
 gtttcgctct ggtaagcaac cgttgatggg tgctaccgac gtagctgcga gaggtttgga 120  
 tatcaaggat gtcaaataatg ttatcaacta cgatttcccg aatactatag aagactatgt 180  
 tcacgcatt ggtcgactg gtcgtgctgg tgcccttgga aagtcccata cgtttttcac 240  
 tccggataaa ttccgtgttg cgaaagaatt agttaacttg ttgcgagatg ctggacagga 300  
 cattcctccc gagttggctc gtttgataaa aacttcgtcc tttggcggtg acaacagaaa 360  
 cttttctcgt t 371

<210> 619  
 <211> 214  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-D8  
 <400> 619  
 acggagatgc atcaagaaga gtctgcataa aggactagtt ttgtatagtt gccatcatgg 60  
 acggtttgtg tggaaagttg tgattgtgta gagagtgtgt ttgtgagttg tgtgtggtat 120  
 tgttgtttta cgtctttgtg agtgaccact cgtaggagtg tgatgaatcc tcacaaagat 180  
 gatagaagac aataaaacga tgttgttttg gtat 214

<210> 620  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-E1  
 <400> 620  
 acccaagcgt ccgcatccat acagacaagg cattgtctat aaatagacat atagcatatt 60  
 attatctata tccacgatat ttccaccacc aagggtgacc atgttttctg tggcttcctt 120  
 tctcctagaa caaaacaaga acaacaacaa tcctagtga ccatcgtctt cgttggtacc 180



tactgccaaag tttctggaag acatcgacaa agtcatagaa gaacaagggtg gaacgagcgc 240  
 tgttttccaa gctttagaac aactatacac gcgttacaag atcctagatt ctagtctgac 300  
 tcgacaaaag aagagttttc aagaaaaaat acccgacttg actaatgctt tgcaagtgat 360  
 tcgttggtta caacaacg 378

<210> 621  
 <211> 203  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-E12  
 <400> 621

accacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccgcc cacgcgtccg 60  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgggtg tatgatgcag gcaaagaagt 120  
 gacgcagtag atcagagagt aacacatgca agtaggtaaa gcgaacgggt gagtaaagag 180  
 gtgtgaaaga gtggaagaac atg 203

<210> 622  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-E3  
 <400> 622

acaaatcaac ccgatccttc ttatacaagt taactgccat ccttgcaaaa agtcgtaaata 60  
 gttcattttg tacctaata tagaactatc tgaaaaagag aagcggatta cagatgcgcc 120  
 ttttgggacg tgacgtagaa cgcctgctgc tactggtacg attaacgctc ttgctttccg 180  
 gtgccactta gctctagggt ccttctcagt tgtaaatggt gtgcgttact aagatagata 240  
 tactctctat tegtccctga actatcttct cactcatgat gttcttgtca ggacagcttt 300  
 tagggttgct tgtaaggat gcaagtactc gatgagaaaa tttgcaaatag tttttaaaga 360  
 atgaaatttg ttgat 375

<210> 623  
 <211> 177  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-E4

<400> 623

acccaagcgt ccgaggcttt attcgtttag tagttgacaa atggggagct attaagccgc 60  
ctggaccaac ggaaaagtta caaggaccac caaaagtaga aaacaatatt tccaacatag 120  
aatatgaact cgtgtaagac acttatcgta aaagaagcaa ccattgtttt tataatcg 177

<210> 624

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-E6

<400> 624

acggacgcgt ggggccacat aatgatatga ccaccttaga aaagttgctg gcagaaacag 60  
tttcgaatga tcccatttcg ggtaaagtga cacaaaggag atttatcatc gtggaaggaa 120  
tatcaagcaa gtttgcggat gtgacacctt tggataaagt tgtggaattg aagaatcagt 180  
atcgtttttcg attgattgtg gacgaaagtt attcgttggg tgttctaggc aaaacaggtc 240  
gtggagcttt agaacatttt ggattggaaa ccacagatgc agatattggt ttggcagatt 300  
tgggaaatgc tattgcaact gtgggtggat tctgctgtag tagtgaagaa gtagccaatc 360  
atcaacgggt atcgagtgtt ggttattggt tttccgcctc aaaagcttcc ttttttggca 420  
aag 423

<210> 625

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-E7

<400> 625

aagtaagtgc gcttggcaac aaactaaaag atggcaagaa gaatcatcgg agcttatatg 60  
tctgacgcta ctgtagcgtc tctatttagt gtgaaaatgt tgttctacct tacaatactt 120  
gcgttctcta tcactattgt ggggtcttatg ggtaagagtt ccgacggat ttgggttcac 180

agtgttccag cgaaagacga atattgtgca tacaagtctt cccttcaagt aaaccaccac 240  
 ggcatagctt cctattgcaa gtatatcatg gctgtagcag ctattgggtt gggtatcagc 300  
 ttcttcgagt ttgtgatgc attctcggga attttcttca agtggcaaca aaagttgtgg 360  
 tatattgaat ctgctatcaa cgtgttttt 389

<210> 626  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F1  
 <400> 626

acccaagcgt ccgcccacgc gtccgccac gcgtccgcaa cttaggaga tagaaacaac 60  
 aacaggaaag cacaaaatgg agtagggaat ctattgcttc attatagact agaccagaat 120  
 aattatatag gttatggccg agaggagtgc aaactggaat ctctttattg agacgaacaa 180  
 ccatcgacta gctgttttga gaaaagaggc ctctcatgaa taggttgatc caacacacaa 240  
 caaggatttt aatactaacc gacgtgttgc ataaataaga tgtcttctac gacgcgtcat 300  
 ttgtaatat cactgtaaaa ttcatctcc tagtgctcct tgggtgttatt tgatatttaa 360  
 ataagtagat tccttaaaga attt 384

<210> 627  
 <211> 282  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F10  
 <400> 627

acaagaaact ccatcaaagt ccatatcacg tgttcttcta tagagtgttg ttgctgttgt 60  
 tgctgtctat tggtagagtc ttccgcattt ttatctttct ttgtagcagc gctgaaaaca 120  
 cactcgtttt catcaatcgt ctgctccaat aggctatcct tgttgggtcaa atctctgata 180  
 tataaagcat ccgcaaatgg atcatccaac tgaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaaaaaa aaaaaaaaaa aaaggaaaaa aaaaaaaaaa aa 282

<210> 628

<211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F12  
 <400> 628  
 aggacgcgtg ggcgtcacga gagaaagagc gagagagggtt atgggagacg gagggatagg 60  
 taagtaaata cgaggcgacc tgggtttttt ttccatccca cgttggtagc ttttgtatgt 120  
 aactcggttg gttgtattgc attgttggtg tttctattac aactggctat tgccaatccg 180  
 caatatcgta gttggaaaaa agagtggata gctatcggtt ttgctcgat aggtttggga 240  
 gaaggattgc tatttatgtt gatatacagt ggacaaagtt tatgaactag ggttggtttt 300  
 ccctggtagt tgaggacagg tgaaatattt tcctgggtgc ttgtctcact cgtcgagccc 360  
 cttgttgtaa taaattgccg ctagecctcca tttctttc 398

<210> 629  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F2  
 <400> 629  
 aagacaatga ggctctttat aacatttgct acaatacttt gaaattgagt aatccctctt 60  
 atagcgacct caatcagttg gtaactgcag taatgtcggg aatcacttgt tctcttcgtt 120  
 ttccaggaca actcaatgca gatttgcgta aattagctac caatctgatt ccattccctc 180  
 gtctacactt tttcatgatt ggattcgctc ctttagctgc tcccggaacg cagcagtaca 240  
 agtcaagtag tattgctgac ttgtgtcaac aaatctttga ttctcgtaac atgatggcag 300  
 catgtgatcc tcgtcatggg cgttacctta ctgcagcagc ttatttccga ggaaagggtc 360  
 caaccaacga aattgatgac caactaatga acgttcaaaa caag 404

<210> 630  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F3

<400> 630

agtgcagcaa gctcggggaa aacctctact ggtgtatctc ggacggtaac tagaggagtg 60  
aacctaagtg gagcagatTTt ttcgggacag gaccttagtg gtgtcagttt tcaacagagt 120  
ctattaagag aaaccgactt tcatgggtcg aaattggttt cagcctcctt ctttggagca 180  
gagttatcct atgctaattt ggaagatgcg gatctttcag aagctaattt agagttggca 240  
aatcttcgta acgccaagct taagaatgct attttacgag gagcatactt ttcaggaaat 300  
acgcgttttag agaatgctga tatcgaaggt gctgattttt cccaagttat tcttagaaag 360  
gac 363

<210> 631

<211> 372

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-F4

<400> 631

aagtttcaaa atgctgcgag tagagtttcc aacaactatt cgttcagata gagttgcata 60  
tgaaacacag tttggatatg tcacgagacc taatcatcga aacactactt gggaagctgc 120  
caagtttgaa gtttgtggac atcgcttttg cgatatttca gaacctgggtt ttggcttggc 180  
tttgttgaat gatagtaaT acggatattc tgcaaaggga agcactttga ggcttacgtt 240  
attaaggTca ccaaagagcc cagataagga gtgcgacatt ggcgaccatg cattttctta 300  
cgcagtgttg cccacgTtc ctgattttcc atgtgaacaa gtttttacgg ctgctcataa 360  
actgaacaga ga 372

<210> 632

<211> 383

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-F5

<400> 632

acccacgcgt ccgcgcaaT ttggaggtct ttgtgaatct caggcaacac tgacgtattc 60  
ttagcctctt tttgtttttc ctagtctgtt ctttgtcaag gtgtagaact ttgttgaaca 120

tacatatgcc ctattgtaat tttatatcgc cttttgttgc caaggaaaca ttcagagctc 180  
 agcacgcacc tgggttcctct catttcgttt caaattgttg ctcctataga ctgagaagca 240  
 atcgatttgc ttcatttagt gacagcagag ttagaagact aggattgagt gtttacatgg 300  
 gaaaggtttc cgactttggc cctttcactc ctattgtata cgtgacgcga tgggtcttgg 360  
 gcagggatag gtttaacagg ata 383

<210> 633  
 <211> 331  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-G10  
 <400> 633

gaacaatata tacagcccga tacttgctac aagtatgtcc ctgaacaaca attggtgcct 60  
 cataacttgtt acaagtatta ttctgtaccc aagtttattg aaaagtgcga tcctcagtat 120  
 gcaacaacgg agaaatgtgt agagtatgag tatgttccat atgccacttc tacaccttat 180  
 ccatcgggat ctccaagtta tactccttca gcatatcaaa caacttctgc ttattaaaga 240  
 gccgaagact ggatagattt ttgaagtgtc tcgtgttcaa agaaaacatg agacatgaag 300  
 aaaacagtaa aggatttggc ttttatccgt t 331

<210> 634  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-G12  
 <400> 634

agggcgctcg cgactaggcg gtgtgaagaa taaatatggg aagaagaccg gcaaggtggt 60  
 atcgttatat caagaacaaa ccatacccca agtctcgttt ctgtcgtggt gtcccagacc 120  
 ccaaaatacg aatttatgac ttgggtaaaa agaaggcagg ggttgaagag tttccccttt 180  
 gtgtgcattt gatttccgac gaaaaccagc aaatatcttc agaagcgctg gaagctgctc 240  
 gggttgcttg caacaagtac atgacaaagc atgcagggaa ggatactttt cacataagag 300  
 ttgcgcacca tcctttccac gtcattcgaa ttaataaaat gttgtcgtgt gctggagcag 360

ataggttaca aactggtatg cgtggtgcgt ttgggaagcc gcaaggaacg gtagctcgtg 420  
 tt 422

<210> 635  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-012-Q1-E1-G2  
 <400> 635

aaaagaaatg gaaaaggaac caaagcctgc tgtgggtccc agaaagggct ctgctgcacc 60  
 agtagatggt atgaaaactc gtatgatacg tcgtcaagtg gacagaaata aacggtataa 120  
 caagtccat agtgtaacgc aagacatagc tgttcctttg tcatatgcac aagtcgcaaa 180  
 gcaaaaagcg tttggaaaaa gagctagttt gtcctacacg gaaactagca ctaacattta 240  
 tagagaaacc aaaaagggtta ttgtagtttc gcgtancgtt ggatacccaa acaacagcga 300  
 gaaacctcgc ctccgaaagt ttcgactagt tcccaacccc aaccggttgg atagccgtgc 360  
 tcctcaactc atccgacg 378

<210> 636  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-G3  
 <400> 636

aggtagtatg aaagaaaagg ccaaattggt ggatgccaag tttctaagga agtattatga 60  
 ggagaacaag gacttcttct tcttgtcgac tagagaagag aagaaaatgt ttgtgacgtt 120  
 acaacttgcc agggaatatg cagagctggt agatgaccaa ttcttgaagg gcttcttcga 180  
 gaaggctctg gagtctgctc agaagacgtt ttaatttgtc aagtagagt tagtgtgcgt 240  
 ttttctgtgt gtatttgtct ctgtgtgtgt gtgtctgtgt gtgtagtgag tggagccgag 300  
 tcagagaaaa cggcttggtt ctttcctgtg gacatagtggt gtaaagtctg atggggttct 360  
 ccacggcttt ttagtaaata aaagtttgtg tccggttggg 400

<210> 637  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-G5  
  
 <400> 637  
  
 aaaaaattttt gcaagcttca acaagcctac acatatatct cctcgtttct taagaccctt 60  
 tatttttcatt actcttttttg tattattttct gtatcatagt cctttcatgg aaagtttggt 120  
 gaggggaatc ctttaaggag aaatttgaag tttgagtgac ttggttatgg aaccaatctc 180  
 taaggacgac ggggtatcgaa gtttctcagg aagcgacaac tgcgagagct acttgcaagt 240  
 cgataatagc ttactattcg gagacttgca gctttcaccc atcaattctt ccgtcaaacc 300  
 ctctccagca aaatctacta ctggtgatag cagctacagc tctgaacctt tccttcctt 360  
 ggctttgcac 370

<210> 638  
 <211> 179  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-G7  
  
 <400> 638  
  
 tgcgacatcg aacaatctac actttttacaa cgtagaccgc tgtccaacga gtggatgtaa 60  
 gccatgctgc ttcttgacca tcaaaataaa gaacgacatg gtcgtcatca tacatcttgc 120  
 cattgaagtc gttcacttca taaactacca attcctgaag ggcttcttcg acaaggctc 179

<210> 639  
 <211> 270  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-H10  
  
 <400> 639  
  
 cggacgcgtg ggcggacgcg tggggcgtga cttgacgacg ttgggaacca catggttcat 60  
 ctattttctca gcaataggca ttcttcgaaa actcattagg aaacctcacc ctttacaacc 120  
 tatttgtgtt ttccacaacc tttttctggc agttgctagt ttatggatgt tcctaggtat 180



ctgtgtggct ctaaagaaca cttggatgga aggcggcttg aaagctatct attgtcccca 240  
ctctataaaa acttccaacc cattgacctc 270

<210> 640  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-012-Q1-E1-H12  
  
<400> 640

accacgcgtc cgcacggaca gttgaaaaag attgcatcca aggcgctcga ggactattcg 60  
aaacaagtca tggaagaaca acttcaaatt tggtcgcgca aaatatttgg agtcgtgtaa 120  
attctattta tttccaccaa aaactcaaga agatactctt atccaacgac ttgagtgcc 180  
gctatcagat ggaatatgca acatatcacc accccttcca agaatacaat cttgataaac 240  
ggcgtgaata taatttggat acttttctat atccacttgt tcgataagtt caatcagact 300  
tgcatttctt tgtatagtac cttgagatgg acagcgttta ctgctctctt ctgggggaaa 360  
atatttccat ccaactatct gaacaaagag atttgtttgt gggtcatcat aaag 414

<210> 641  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-012-Q1-E1-H6  
  
<400> 641

aaatattcct tactatgtgg tggttgggtg gtgcaattgt ggtgactgca aagcgacctt 60  
ctagtgttgt tatggatgcg cttcacataa cgaaagatat caattcaatc gaaggccttt 120  
catggatcaa ctttgctttt acgctattcc tttgtggagt agcagcagtt gacggattgt 180  
tgggtgggaga taagaccagc agctccggca aacagaatac aggagcgaac aatgcttgag 240  
tttcttgaga agttacaaat agtcgtgtct atgaagttgt ctgagttgcg tgagaaaaga 300  
caagtagttg tgtctatgaa gttgtcgtaa atagttgatg tgtgttgtgt tgttttgcca 360  
cagaaaggat gtttcgtcct tgggtggcctt tgcaattgcc attaaatgac acaatttgtg 420  
t 421

<210> 642  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-H8  
  
 <400> 642  
  
 atagactcct gccgatttgt cgatcatgta gtatctgggt taaatgagaa aggtgaatgt 60  
 ttgccatctg cttgttatca cggagaaatg cctccaaaag aaaggcgtgc aagttggata 120  
 agattctgtg agaaggatgc tggatttctg gtttgtacag atttaggtgc gcgcggctta 180  
 gatattccat ctattggtgg tattatcatg ttcgactttc cgaagactac aaccagttac 240  
 ttacaccgcg ttggaagaat ccgtaatgaa ggtgttgat atactccaat aacgcattcc 300  
 tcagggaaaa ttgctgagat atgtctttct gcacatgttg caactatagc aaccaaaaaa 360  
 gttgatac 368

<210> 643  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-A10  
  
 <400> 643  
  
 aatgatcgat ggaagaaaag agtgaagact tggtggataa ggaacttgag tccttgttga 60  
 aagaacgaga tgctattttg aatggaacaa gtgaagaata cttgagtcaa ttggcgccct 120  
 tagagaatga aaggaaacgt aaactcgata gagctatgga cttttatcaa cttcaactac 180  
 aatatgcaga acagctgtat gagttggcca agaaagaagc atatgatagc tttcaagcac 240  
 aaaaggcaga acaaagagaa tatatgtggc gtattaagtt ggaaagagaa attaccttga 300  
 gactcttaag attatccatt ccactaaggg atccaaacgg acaagtgatt gtaggaacct 360  
 ttggaatgga aggctttgtg aatcttatct atcgcaatcg tttattcgaa aattgttcta 420  
 aaagaagaaa ataccttttc 440

<210> 644  
 <211> 433

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-A4  
 <400> 644  
 cacgcgtccg caatgaatgc cctgagtgcc agtcagtcct tgtcgtcttc cttggctcca 60  
 cagttgaacg cagacgttcc tgatacttgt aaagagtgtg gaagtgacga cttggttgaa 120  
 gaccatgccc aaggagacgt catatgtaga aactgtgggtt tggtagctgc ggaaagaatt 180  
 gtagacttgg gttcggagtg gagaaacttt gaaaacgatg acagcggtag agaccctagt 240  
 cgtgttggag ggccgagcaa cccctcctt ggtcgggtc caagtaccgt gattggagga 300  
 gtagtatcgg actctaaaag tttgaacgca cgtttaata gggctcagaa tagacacagt 360  
 acttcaaaaa gtgaccgagt tttgttggat gcgttttctt taataagtca gttcgcggaa 420  
 cgctcttccc tgt 433

<210> 645  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-A5  
 <400> 645  
 ataacagggg gtacatgagg actgagagct catggccgtc atagtatgag aatgagtgcc 60  
 gtgagtgaac ccatgatgct gcttgaagaa gacagtgtcc agcgcgtacc ctttgcacat 120  
 tgtcccagct agtgctcgag gatgcacaaa gaggggcact cattgtagca ccgcaagacc 180  
 cgaagctagt tgatcatatg ccgtccaagc gaagtaaggc tgaaccagta tcagtggaac 240  
 atgcattgct atcgatcgca tacggagtga acggccagtc aaagctagt atagctggta 300  
 ctctctgagc gctatctacg tagcgtatgc aggcataag atggtaaata aacac 355

<210> 646  
 <211> 217  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-A6  
 <400> 646

cccaaacgtc cgaacaaaat ggagaaagtg gtattctata ttgacgaacc ccgccactgc 60  
agctgtttgt tcgtctcctt ccaaaatgag gcaatgcata ataagaaaat cccacaagga 120  
acaaatgcaa atgattcagt gcacatctgc aataaatgca atgatcgaca aaatggcgcc 180  
attgttttgg cgcgtccggt catttttttt cttctcc 217

<210> 647  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-A9  
<400> 647

agcccacgcg tccgcccacg cgtccgcttc cgtggcacgc atgttcagtt ggtttagat 60  
ggaagcgccc atgaataata aaccaagcac caagccaaag tctccttgtt tctcttctgg 120  
gccttgtgcc aaacaccctg gatactcttt agaaaagtct ctttctaata cagcactggg 180  
tcgtttctcat cgctcgacta ttggaaaatc caagctgaag aacgcaatcg aaaagactaa 240  
gcgattcttg caacttcctt cgtcttatcg tgttgctatc gttccagggt ctgataccgg 300  
tgccgtagaa atggcgcttt ggagcttggt agggccacgt cctgtagatg tttgttattg 360  
ggagtct 367

<210> 648  
<211> 292  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-B1  
<400> 648

acgcgtccgg attttagga ttgacttgaa aaagatgaag aatgggaaag gttcacggtt 60  
ctcttgctcg tgctgatata ttactaggtc aaacataaaa ggttccgata caggaaaaga 120  
agaatcgccc aaaggggaag gcttggcaaa cactcaagta caatatgcgt attgtgagtg 180  
ttgttggttg ttttggtgaa agaagaggtc ccaacgcca ctcgtgaaac gactgcaatg 240  
atacagacat tactttacac ctttaacagg taacagtcgc acctcaagaa aa 292

<210> 649  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-B2  
  
 <400> 649  
  
 cggaacaagt cccgactcct gttcgaggta ttctcaataa tggcggcctt tatggagaaa 60  
 gaaaaggatg gtatttgcct gattatccag attttgactg ggaggttggtg tcacttcctt 120  
 acgacttgaa cgaagcagca gtagcttggt ttcgaacaag ttttgaactt gacattcctc 180  
 tggatgttga cgttcccatc ggtttgctta tacaggatga tccttcttac agatataatg 240  
 ctctcatact cgtcaatggt tggatgctgg ggcactacat caattactta ggaccacagc 300  
 atgactttgt acttcagaat ggaattctga atcgactgg aaagaatgat atagccctag 360  
 cagtttgggg acaagacctt gctggaggaa gacttgaaa cgtttcc 407

<210> 650  
 <211> 453  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-B3  
  
 <400> 650  
  
 cacgcgtccg cccacacgtc cggaatttg ttggtggtgg aaggcgtaac tttgtgggtt 60  
 tccttacaag atgtctttta tatttcgtgg aatcaaaggc ctttccaatc ctcgttatgg 120  
 acaaccctg gatttacca ccggaataat gtatagcttg aagcagatgt cgtacattgt 180  
 ccagtttgct ttttctgttg tagtcattgc tatgttctcc caagttacct tttatctata 240  
 ccgtgacttt aagtgtgctt tcgatgggca ttgggattac gccacgcata gcgaagtgtc 300  
 tggctctgtg gggtattgcc gttacttcat tgctttgggg agcatttcca tcgtactttt 360  
 agctattggt gccgtagcta cttttggaac gctgtatttt gaagttccta tggactatat 420  
 cttttatggt gaatggggga ttaacgcttt tct 453

<210> 651  
 <211> 347  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-B4

<400> 651

cacgcgtccg cgagagcgt ctaagatggt gtgtgtagta gacagcgtac ctttgcggga 60  
tactgtaaag cagtgccatt atatggctcc gaatggattg cccttcagat catcgatttg 120  
cccaaccctg tgattgacgt acaggagcac tctatacgtt gacgcggaga tcggacactc 180  
tccattatgc gatattctgt cgattcagag ctatgtacac cgaaatggtc tcttcactat 240  
atcatgacat acaatgatca tccgatgtgg tactcagatt cgtccaggca taatcggttg 300  
tccgtgtgta tcaagtcatt gccattagat cagggtgttc gggacca 347

<210> 652

<211> 472

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-013-Q1-E1-B6

<400> 652

cggacacgtg ggcggacgcg tgggtagttt ttcacgttcc acttatctca acaggttagt 60  
catgagcaaa gaagatggca tggaggcctc aagacgagct cccgaagacg tcattcgaac 120  
gcttcacct agacttcctg aaccgaacg tcgggaattg tgggaacaga taaatttact 180  
taggcaagaa aaagatttgg cagcaaagga gtacaggttt gaggaagccg caaagttaaa 240  
ggaacgagcc ttagagttga tgctgcaaga cccttatgca tgtttggaac tcgaacttca 300  
gaaagctatc gaggaagaaa gatataagga tgcagctatc ttctccgatg cgatgaggga 360  
aattggtgaa cccccaaaaa gtgagaaaaa ggacacagaa caaaaaagtg cccccaaaag 420  
tagaaatgtg tntggctttg ttccgaaaga ctggccgacc aagtcaaaca ct 472

<210> 653

<211> 478

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-B7

<400> 653

tcggccacgc gtccgattga aatatacacc atttccatgg tgtctttgag cttttttggt 60  
gctgccatct atgtctgtta tggcaaaaag tccgtatgga gtgtttgtat accagttttt 120  
gctttgatat ttggagcgtt tgatgccttt gtccttgtaa gcataccagc acttttagtt 180  
gcagcaatct atgttagtat tccaaccagt atttcaggct ggacttccat aacttttggg 240  
ttcgtatttg gtgcaattat tttattatta gagaccggga tgttgaaatt tttggattaa 300  
gaaacgacct agccgtatag tataagggtta cacacctata cttatccatt cactgtttct 360  
agaaatactc ttctgtccc ggaacgagcg atttgcttgg cttgcctttg ccgttcctga 420  
cgaaatagtt tcttccagtc actcttttca gcccgctgga aagctttcca ttctttta 478

<210> 654  
<211> 471  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-B8  
<400> 654

gattattgtg gggaaagaat tcaccacgtt gaggatttct ccagcggctg cttgtgctcc 60  
tttcatggaa tttgcgcaag atatttcttt cgagattggg gaacgtgata cttgggtcat 120  
tataaagtgc cgggatagaa gtggactgct ttagatatatt attcataccc tgggtccactt 180  
caacttgagt attcattcgg ctgtcataga aactttgctg gatggaagtg tccaagatag 240  
at ttgggtgtt cgtagaaaag aggatggctc gaaaataatc aatagagagg aattggaacc 300  
tttaaaggct gccttagaac aaattgtcgg agaaaagccc attcgagtgt tttggaaaca 360  
aactgtggat atatttcaag ttcttcacat agtttgtcca gaaaggtctc atcttcttgg 420  
cgacttggtt tctcttttag aatacgaaca gctgttggtc aaggcctgtg a 471

<210> 655  
<211> 461  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-B9  
<400> 655

gggccgacgc ccgctccag cactattaga aactcgagta atggatgcat tgactcaagt 60

ttctaagaat tccgactact cgagacttgc aagtctccgt gtctatcgcc aaaaactttt 120  
 ggatttgaag gctattgctg accagatgga tgccttgctg gaagaatttt ttgattccga 180  
 ttttgtcgaa aaagctttgt ttagagagga caatgggagc aaggatattg gtccttgtgg 240  
 tagtttggat gacctgaaat atattttcga accttatctt cagagtttgg atttacaaaa 300  
 gagtatttgt ggtagttttt tgaaggcact acaaaatgtg gaacgtggct tgatgcttgg 360  
 atttgacttt attcgcaaca aacttttcac tttggatttg ttgggaacta ttttgattct 420  
 caattttact cctaacaata tgggtggaag gttttttggg t 461

<210> 656  
 <211> 293  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-C1

<400> 656  
 tccactagag aagatgatga tcgatcatca ttgtgtccgt aactcacaaa gataggtgaa 60  
 tacgtcacca tagtgtcaca ggatggcaat atttcaggca tcaactttca gattgccact 120  
 cgaacgaaac agcgcatcat ttatcatttg caacgaaaga aaggttctgg gatagatccg 180  
 aattttgccg gtcaatggga tcaggacatc ccttttcaaa atacagtttt tttggaaaag 240  
 gccccctttg gagtacggtt gtggtccaag ggtcccattc ctttccaaat tgc 293

<210> 657  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-013-Q1-E1-C10

<400> 657  
 tttgatgcaa aaaggaatgg ggtaatttga aaaaggaatg aagaacccaa agagacctta 60  
 attaaccaac ctgggaagaa ccaaagttac cgataaatt acaactcaac caaaatttaa 120  
 taacaaaagt tggttaaaat gataaccgga ggtggcatgt gttaaacttt ttttcgagta 180  
 ttatattcca tgccatttgg agaccgaatt atgatgagcc tggatcacat ttggtagaaa 240  
 atattatgan agaagccaaa gaaagaaatg tanagataca ttttccagta gattttgtag 300



tagccgatcg tatggctccc gatgcacata cagagatacg tactagagaa caaggatttc 360  
ctgagcatat gcaaggactg gattgtggac cac 393

<210> 658  
<211> 310  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-C2  
<400> 658

gcggacacgt gggaggaatg ctagattttc atcaacagca tggtagaatg ggcacagtct 60  
tatacacaca ggtggaagat tgatgcaa atggcgtcga acattttgtg atgaccaga 120  
agagtgaggg ttatgtagat atacccccat tgattgttgg gaacagtaca cattctggag 180  
cacatgtgaa aagtctaaat aatttgata tccaggattt gacatcgaca cctatcgata 240  
cggaagtttt tcgggaacgg cgtgcagaag gacagtagtc ttcagtccac cttgaatcgt 300  
tttgggcggt 310

<210> 659  
<211> 255  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-C3  
<400> 659

gccacgcgtc cggtgcaa atcgactggg tacatcgctc catggaggat tgcattctag 60  
ttggataaag cgaatcatga tcaa atggaa gccttggttg atggacacaa gttcgatttc 120  
acctaacgcg aaattattta ttgccgtac gttttgggga tagagatgga gacaacgtac 180  
gatacgtagc agacgtaca taattgattg tgagtacatt gcaaaagaat ctcgagttgg 240  
gtatacgcgg tccta 255

<210> 660  
<211> 476  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-C4

<400> 660

tccgaaacaa actgtcactg agtacaacgt gctttggtgg agtgaattct acaaacacaa 60  
tgctattgat gaactagtgc gaaacaacaa tgccataccc aaattcgttt tcgcctagct 120  
cgaaattttt tactgcaaat aaacttttga gacagagaag gaaacagagt acgatgccca 180  
acaacctcca cttagttagt tgtggagaca cagcagagga agtttgaaaa tggaatattc 240  
tgttcgaaag tactggactt gacttccaac ggaaagatgg aaaaggatgc aactctacca 300  
tgactgcatg gaagcaaaag tattcggtgt acagttggat agatggacgg cagtcttttc 360  
ggtctccggt cagactgcca aatgctttct tcaaagtgtc cacttgtgac acttgcagtg 420  
ttacgacgtg ccaatcgctt ttaccttttc cttgaaaaa ttctctctgg aaagtc 476

<210> 661

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-D10

<400> 661

gggccgacgc acgcgtcaat ggagaaggac gagcatcagg cagtggcaag ggaattggct 60  
attcgcaaac gactcggcaa agtatattaaa aaaaagagag aagactttgc tactgaagaa 120  
gaatataata attatttaga agcttttgaa gatgctgtat atagtttgag tgaaggaacc 180  
aacacagatg aagcccaagc aagtatggag agacttgcaa agtatatcaa agacactagt 240  
agagaagaaa tactcatgaa tccagttttg attgtgggtg atgagagcga ggacaagaat 300  
aatgagagta gcgaacaaca aggagtgacc tttgtcgatc ctacaagacc agcaaagcct 360  
atgcctgctc ctttacgaga caacagtcct gtggatgaga agatgcgtgc aagagcttcc 420  
ggattcgacg aaaaactatg tcgtcaacga gcactg 456

<210> 662

<211> 263

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-D11

<400> 662

acccacgcg cccagaaata ttatcctgtg ccaaaataaa ataaaaaaaa aaaagaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa aagaaggaaa acaaaaaaag aaaaaaaaaat aggtcagcca 120  
 cccaaaaggg tcaaaactca tctaaaatat caacaggggg tcatttcact gcgatatcgt 180  
 cttcaacatt catttcaggg accttcctgt gcttaccocg tgtctgcgaa ttcccggaca 240  
 attccccttc ttaccacct tgt 263

<210> 663  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-D4  
 <400> 663

cacgcgtccg cccaaagtgt cacttcgacg gtacgccggt caaacattgg aatcggataa 60  
 attcagcgaa aatgaaatac ccttaggtaa aggattcaga acctaaaaaa tatttgagc 120  
 tagacgattc gttgcagcag ccagtgggtt catctttag caaccaagtgg ctgtttattg 180  
 caacccact gttggaagt gcatgtactg atgggcagcg aattgaaatg attcctttga 240  
 agaaagatat aaaggaattg tttttctcta ctttaaggaa gaactttgag tcgaacgaag 300  
 cgtcatggga gtgcattgta gttgaaaccg cagttgctgt ttttagccag tattatgaac 360  
 agtgtgtgga acagtactat ctagcacgca tggattatga gctacctgg tagtccaaag 420  
 taaaacagat tcggagtatg attgaacatg tt 452

<210> 664  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E1  
 <400> 664

tgtcatcctt gtgagtagtg ataataaggt ttttgaagta tacacaagcg ttgtatcccc 60  
 ttctgaaaca ctattgtccg tctcggtaga cactgtagac atataaagca ttcccttgcc 120  
 taacgtggaa ggacgacttc ttgcaaaggt tatcgagtat tgtagatata actcactctt 180  
 aaagaccatt ccgcagtctg atgaggatat tgagcgctgg gatagggaat tcctaaatgt 240

cgatcaacca accctttttc aattgactct ggctgcatat tatttggata tcaagagctt 300  
 gttggattta ccttgtaagc gagtatcaga tatgattcaa ggcaagatgc cggacgatat 360  
 aagataagag tttaatagtt gtaatgattt tactcccga gaagaataat 410

<210> 665  
 <211> 477  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E11  
 <400> 665

ggtctagaat taccgggctc gagcacgcgt caacactttt tcataaacta tttgtgaagc 60  
 tacaatgcca tcacgaggag acataaacct aagagatact ccaaaagtgc atgaaaaaat 120  
 agcacataaa caggaaacag gaaaagtatt cttctctttt gaatatttcc ctcccaaac 180  
 accatcagga gtggataacc tttatgacag aattgaccgc atggccagag tagaaccact 240  
 ttttgttgac gtcacgtggg gtgctggcgg ctctacgtca gatgtgacac ttgaaattag 300  
 cggaaacatt cagcgctatt ttggtttga tgtatgcatg cacctaacgt gtacaaacat 360  
 gccagcaggt aaagtggatg aagcattgaa tgctgccaaa gaaagaggca taagaaatat 420  
 tgttgcttta agaagggatc ctccaaaagg agaagaaatg gttagagtaa aaaccat 477

<210> 666  
 <211> 54  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E2  
 <400> 666

ttatatatag atatttttat attgacattc atatatatat atatatatat atcc 54

<210> 667  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E4  
 <400> 667

cacgggccccg cgatattgta caaccgttgt tggctccgtc gtccggaatt cctagtcagt 60  
 ttggttgaca tttggtatat atggcaactg cagtggaagg aaaacaagaa acagcaaagg 120  
 acaccaagtt gaacaaggcc tttgacctca agtcattctt gaaggacctg gcagctggag 180  
 gtgtagctgg ggcaatctcc aagacggcgg tcgcccctat tgaaagagtg aagttgctac 240  
 gtcaagtgca gtattcaaata ccgcaaatacc cggaggagaa acgttataaa ggcatacatg 300  
 actgttttac aagagttcca aaggaacaag ggtttatctc tttctggaga gggaacatgg 360  
 caaacgtcat ccgttacttt cctacgcatg cccttaactt tgctttcaag gac 413

<210> 668  
 <211> 106  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-E6

<400> 668

agacagaaca tgagttatga cataaattat ggaagtaata caagtggtag gtggagtaat 60  
 aatgtatcat atgatcgaaa gactggcgaa ttttaggaag gattac 106

<210> 669  
 <211> 480  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-F1

<400> 669

cacgcgtccg cccaaacgtc cacggacgcg tggggccttt tccgaaaaca ctaaaggaat 60  
 gaagacgact tggttacaag atattggata tcttattgaa gttgtttgta ctcaagaaat 120  
 acaagtgaag ggctatcttt atactgtaga ccctaatact aacaacttga tattgttgaa 180  
 cgactatgac tcaacgacaa caaagtttca tcaactgact ctggatcatg gatccgctat 240  
 ccaagagatg aaacgactgc aagtaaccga agaacctgag cttacaaata gaattagaca 300  
 aacggaccaa gtggaacaat tgtagtgca gcaacacacc atggaaacaa cacaagtttc 360  
 gagtgcgata gaacagcgca gaaataaact gttggagctg ttgaacaagt atccttggaa 420  
 aacggaatgg gatccgacta gtggaattat tcgtgtgatg gaaggactcg ttcgaataga 480

<210> 670  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-013-Q1-E1-F10

<400> 670

tacgggtcaga attacggggcc gacccacgcg tcaaaggtaa aggaaaagaa ggaagaacca 60  
 gaaagggact ataaccaaaa aggtggatat tcaaaaggga aaaagcccag aacccaatat 120  
 aaggtatcaa agtaaagaaa aaaggaaaag gagaagaaga gaggggtacgc ttagaagcag 180  
 canaccagag aggaaagcgt taaagcatga aagaaaagaa atccgaaaaa gaagagaaaa 240  
 aggtaagaaa gaggaccgaa tcagggttaag aggtagagga gcaagaagag aagagagaat 300  
 gctgggtgga gtagcgaaac aagagaaggg aagtaaaagg taagaaagag gaaaggttta 360  
 cgagagaacg aagtagaaag aagagagtgt aaggcggcgt cataatagaa atccgaaagg 420  
 agtangaaga aaagagagag a 441

<210> 671  
 <211> 476  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-F2

<400> 671

cacgcgtccg cccacgcgtc cgaccacgcg tccgcccacg cgtccgcca cgcgtccggt 60  
 tatgattgcc ttctcgaag cctctcgttg gagtaacttg ccgacaaata gttccactt 120  
 gcaaaaaaga gtggtgcttg caaggcctgg tagcatatct gttgtaaaca ggccgtatcc 180  
 tcctcaaaga agcagtttaa cctgtatcaa aagcgtgctt tccaacgcaa ctactataga 240  
 gagtgctggt tccacactaa acaactctaa atttgaacag ttgcctctga cgcagcttgc 300  
 cgagctacaa gacaaacttc ttggagtaac ttttatttcc ttgtctattt tcaactgttt 360  
 gttactggca tatctgggca gaaggatagg ttaacttctt cgttctataa ggggtactcg 420  
 ctcgttagga gtcgttcaca atacaagctc ctaaataaat acttcaagga ctgtgt 476

<210> 672  
 <211> 502  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-F3  
  
 <400> 672  
  
 acgggtcggat atccggatcg agccacgcgt ccgcaatgag gcagttgggc gtcgcttttt 60  
 gtttattagc catatgcgtt gtttcaacaa tacaagcaca aggctctagt actcttgctc 120  
 caacaggagt tagttctatt octactagtg ctgttacagg cgctacggga ataccaacta 180  
 gtttccctag ttcggtttcc acgggaatac caaccagtgt accaacaaca tcctcttcga 240  
 ttactatcct tactgtcttg caagacaacc actttgacga tacagtacaa gctataaatg 300  
 cggcaggact tgactctttg ttttaacaatc ctccgctac tcttactttc ttgcagcaa 360  
 atgactctgt atggtctact tctacagctt ctcaagctct gagtgtctct ccaaccagtg 420  
 caccaactgg agcctcatct agtagcagta gtagtgcagt atcgttcctt agacgtgtca 480  
 ttcttggtgc aacattcaat ca 502

<210> 673  
 <211> 485  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-F8  
  
 <400> 673  
  
 cgggtcgacc acgcgtacgc ccaagcgctc gtgagacatt tatggacact tcgactattc 60  
 ttgcagtgtt ttatggatat aatgatgagg gctttaaggc cccggaaaac cccaagggtca 120  
 tgaacacagc aaatttggtta aggctaacca aaaaggactg gtcccaattc aaccgccaag 180  
 aaaaacccaa taaaggtgcc taatttgga aatttcccaa cgataattat gatggcatcg 240  
 ctacggaaaa tggattcaaa ggcaatcctt ggtttctgtg tacttttagga atggcaagat 300  
 attactttga attagccaaa cgattctcgg aatatgcaac gctgaatata tcttctcgtt 360  
 ggatgctacc tctattagaa catttgcgaa cgtcttattt caagttgaat ccatctatgc 420  
 catccacttt tcattgttga gagactcttc agaagccaca attgtgtcag attgcacaag 480

ctttg

485

<210> 674  
<211> 491  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-G2  
  
<400> 674

cacgcgtccg aaggattatt acatatagct gagtggcccc ttttcaggaa gtacctttac 60  
tttctatgct tatattgtct aaaaagagga gggaagaaaa taaaagagct tccttagact 120  
ctattcagtt tctgtactc gatatagcga gtccgagtc tcttgaaagg agtatcgacg 180  
actgctccga cgacagtcct ttcttgcgag aaaggttgtc ttctttgggt ctggggatta 240  
agacagtaga aaaggatggc aactgtcttt tcagtgcagt ttctgaccag ctttacggaa 300  
caccagagtt tcaccgggac ttacgagaag cagtttgtgg gtttttgcag agtcacgaag 360  
aagaatacag tagctttgtg gaagaagagg atttccagag ttatatcagt aatatgagga 420  
agatgggtac atgggcggga aatttagagc ttcacgcaat ttctattctg tataatgtga 480  
acgttcgaat c 491

<210> 675  
<211> 155  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-G3  
  
<400> 675

acgcgtccgc cgacacgtcc gaggacgctt aggcggactc ttggataact cacgtccatc 60  
agcgcagcat cctatgaaga aagtgcagag gtaggacttt cgttaagcta ctatttcagg 120  
ttctcgatga cagaggtgca ttctatcgga tatca 155

<210> 676  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-G6



<400> 676

ccgggcagga cgaaatgtcg aagaatcatc ggagttatta gacaaccgac caatgtttcg 60

tgccgttcgg aacaagaacg acttggtgac aagttactac gtttcacagt catatattta 120

ttgtagaagg ctatttcacg cagttgaaga acagccttcg ataaacttgg gaaatataag 180

ggataatcca ggtgctcgac aaaaggaaaa gagagtagga cgtggcaatg gtagtggccg 240

tggttaactat tgtggaagag ggataaaagg acaaaagaag cgacaaggag gtcacgtgaa 300

accttggttt gaaggaggtc agacgcctct tttccaaagg ttacacagca caagtttcaa 360

agacttggtg tgataatcat g 381

<210> 677

<211> 462

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-G8

<400> 677

cccaagcgtc cgcggacgcg tggggcagcg tttgcaattt ttgttgtagg tgagtagtgt 60

catggcagag caacaaagaa gtgagagtac tgaagttaga agtgctgcag tttccacccc 120

ttgtataaag ggttggtgggt tttatggtac ctcttccact cttgacatgt gctccaagtg 180

ttatagagaa catttgcgcc aagaggaaca aagacttcaa gtggagtctg tatgtcagca 240

gcagcaacaa caacaacaac aacaacaaaa gcaggataag gaacaagaaa tgactcaggg 300

gtccgagttg cacgacttgc cctctaaaaa ggagcaaggg gaagagactt cggaggagg 360

ggctcaacct agccagggtt ttgttgcgga aagttgccga ggggaaacct cggaatttgt 420

acagtccagt caacaggagg aaagagttca acaggggggt gc 462

<210> 678

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-G9

<400> 678

accacacgt ccgcggacgc gtgggcggac gcgtgggcgg acgcgtgggg ctggtcaaag 60

cactaaagga aaacggactg ataaagactg aaagacttga gaaaacactg ctactgtag 120  
 atagaggcta tttctgtaaa tatcggcctt atgaagactc ccctcagccc attgggttga 180  
 acgcaactat aagtgtcctt catatgcacg tcacctgttt ggagttgttg aacgagcact 240  
 tgaagcctgg aagcaagggtg ctggacattg ggtcagggtt tggctattta acagcttgta 300  
 tgggcgtcat ggtagacca aagggctcttg ttgtgggtat cgagcacatt ccgggtcttg 360  
 ctcgacaatc tatagagaac attgaaaaga gccaaaagga ctttttgat gaaggggttg 420  
 ttaggatagt 430

<210> 679  
 <211> 460  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-H1  
 <400> 679

cggacacgtg gggtttgtac tctaagagg ttgtgtacat cttcgaacgg tcgatgattc 60  
 gacagttgca tatagcagag caagtgtaga aacttttgaa cgcactgaaa ctacctgcc 120  
 ttttggtcat gttggtagta tctttgggtt agcaagttgt cttttttcaa tgcctatgcc 180  
 aaaatccgtc atagtgtttt ctccatttgc gcatttccta tatatatcat ctggagattt 240  
 agagagactg gtttccatct atccacagtg caagttggat ttataccgaa tggcagcaat 300  
 tgaaatggtc aatctattgt acccgaggc tgcacaagct cttgatgaag cggatgaaga 360  
 taccgatagt cgggactgga agtctcgca attggatgaa gatttcatta tggaaaaatt 420  
 ttctgatagg aaagacacag agctttctca acgagaagaa 460

<210> 680  
 <211> 484  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-H2  
 <400> 680

cgggtcggtc atgcatgttg gttagtttct ggactttaag gcattctctg tctcttgttg 60  
 gtgtgactgt tgtagatat tgtgaaagat gggagtcaaa gttggtatta atgggttttg 120

gagaattgga aggctagttc ttagagctgc tttggagaaa cagtctgtag atgtggtagc 180  
tatcaacgat ccctttattg atttggacta tatgggtctac atgttcaa atgactctgt 240  
gcacggcgct tatccaggta cagtggtagc aaagaatgga aaacttgtcg tggatggaca 300  
cgaaatggca gtgtttgcct tccgtgacct tagtgagatt ccttggtcct ctactggagc 360  
agaatatatt gtggaatcaa caggagtatt tactgctgca gataaagctc gagcacatat 420  
gaagggagggt gctaagaaag taatcatttc tgccccgtcc aacgacgctc ccatgtttgt 480  
gatg 484

<210> 681  
<211> 290  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-H4  
<400> 681

ccatgttatt gttgtatgga gaccatgggt agcgccaccc tcagtagtat gtctagagcc 60  
agcttatggc tcacaagggt ctttttgtac acagtcattc tcgccttttc tatccccaaa 120  
agatggattg atggaaaaaa aggccaaaat ggttgggaaa aaaacccttt aaaaaatggg 180  
aaagtcctcc acttttgcgc aaaaagtgcc actacgatga cggcgacaag cagtaacttt 240  
aacggaaact cacacacttg caagtaagtc aacccttaa cgtctcaaaa 290

<210> 682  
<211> 463  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-H6  
<400> 682

gtccgcccac gcgtccgtga ttaccgttgg ttggcatgta tgaatattta tacatgtata 60  
cgattgttct ttagggtttg ttagaatata tccgcagctt gttgaaaagg aaagggcatt 120  
gcgtcattgt tgttcagag ggcgctggta tggatttatt aaaggatgaa gttgatatgt 180  
ccaaaagaga tgcttcgggt aatatcaaaa tgccagatat tggattgttc ttgaaagacc 240  
acatcagtgc gtggtttacc gagcaagtac gaatggaaat aactctcaag tatattgatc 300

ctacttatat gattcgaagt atacctgcaa atgcaagtga ctggtttgat gtgtgggttta 360  
 ttggcccaat cagccgtaca tagtgccatg gctggctgag gtgggttttac aattggagtt 420  
 atcaataccc aatattccat tattccaatg catgagttgt cct 463

<210> 683  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-013-Q1-E1-H8  
 <400> 683

cccaagcgtc caggaagggt atcgccatgg caaaggcagt gagaattggt gctgaagggtt 60  
 acagggttaaa gttggacggt gcagttcaag agatagacgg tcgttctgta gttctggtag 120  
 atgtggatag tattaccct ctcattgttg gaggtagtat gaaagaaaag gccaaattgt 180  
 tggatgccaa gtttctaagg aagtattatg aggagaacaa ggacttcttc ttcttgctga 240  
 ctagagaaga gaagaaaatg tttgtgacgt tgcaacttgc cagggaatat gcagagctgg 300  
 tagatgacca attcttgaag ggcttcttcg agaaggtctt ggagtcctgt cagaagacgt 360  
 ttttaattgt caagtanagt gtagtgtgctg ttttctgtg tgtattgtc tctgtgtgtg 420  
 tgtgtccgtg tgtgt 435

<210> 684  
 <211> 497  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-014-Q1-E1-A2  
 <400> 684

atgggtccggc tatccngggt cggaccacgc gtccggagta aatcacctcc gtgaatctgc 60  
 gtccatgttt gccttcatta caaactcatg ccaagtcttt actggaagaa aactattac 120  
 caaattcatc atatcgacg acgctaaagg atacagaaat tgcctatcta tacatatggc 180  
 tgcaaagtct agagcgcttc catttctgga agccccaaaa aagcttgacg gaacgattcc 240  
 aggagatgca ggctttgatc cactgtatat ttccgataat atgaacctgg actatcttcg 300

agcttccgaa ataaaacact gtcgagtagc catgcttgct gccctcggtt atgtagctca 360  
agaatttatt catcttcctg gagatgtctt tagcgagagg catgccttgg cagccattca 420  
caaggttccc ttggagggtt ggatacaaat tatccttttc atcagtctga ttgaaatagc 480  
gacatttcgt actactt 497

<210> 685  
<211> 468  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-A3  
<400> 685

acgggtcggc ccaaactcc ggaatggcaa ccgcaggttc gtctgttaca tatccagctg 60  
tcgtgtcgtt atctcttgcg agattagctc cggtaggacg acgctaccaa gccaaacttg 120  
aatcatcgag atgctttgtc gattgatagt tcaagtatat tttggaaaag aaagtaatgc 180  
agggacgact tggcttgcat cttctcgttt gtttgctttt tgttgctact gctataagtg 240  
ctcagagcga cccagagtga aactgaacca aacgagcgag gttgtgctgt gacagagaga 300  
gagaagaaag ttgcagaaga aagacggctt taagtctttt cattgcaaca agtgcaacac 360  
agataaattt atgccgcagg acaaaataac tagtactaa gtataagggtg ctttggtgca 420  
gttcattcta gtagcacaat atcatcgatg agctactaca agacaaca 468

<210> 686  
<211> 499  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-A4  
<400> 686

atgggtcggac atccgggtcg atcacgcgtc cgcacggaca aaactcgtga agcaggatatg 60  
agttgcctga atgaaatgaa gtgtcattgg ccagaatacg cttcgagtct aatggaaagg 120  
ctcgatcctt ctctccaacg tcgtgctgtg aattctctgt caacaaactc agacaaatca 180  
ggttcgacga agcagagcaa ggatcgcaaa actatcaaag agctgaaagc cgaggccttg 240  
gagactaaaa aaagcggctt gaatacacgc tccgaaaccg tggcgcacga cgaagtaaca 300

actctctcct ctgcaatatc tcaagtgaga attgacggag ccaaaagtag tggcaagtgt 360  
gctgcagaga aagaaaactg caacaacgtc attcctggcg acaacaaaca gacaaggtca 420  
caagcaatcg gaacccgcaa tcttcgaagt agaacaattc ccaagcccaa ttaaagtact 480  
tgttttatat ttcgctgat 499

<210> 687  
<211> 222  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-A5  
<400> 687

gtcggcccac acgtccgtga ctattatttg gaaatcggtt tttctatttt gggtgtattt 60  
gcattactat cttgtatata cagttctaac gtgttggaat agattccatt ggcacttatt 120  
cgtacaaatg catattttga tcaattagta atgggtgaaa atgcaattcg gggcccgtag 180  
gttcacagcg gttacaactt ttcctaagga aaccttagga aa 222

<210> 688  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-A6  
<400> 688

tgttgacggt ggccaattat gagaatacgt cgtttgaacg aacaaggaga agaagaagac 60  
aaagaagacg aacaagaaga aatgcaaagt gaagagttga caaggagttg ttcggaattt 120  
cttctttcgt attcttccga aatggtagac tgtataacct cattgagcga tgacgacgaa 180  
gagaaagagt cgttcgtggc ttctcgactt ggacaaaaac tgggaaagat gctggaaagt 240  
tatgcctcgc attgtagtgg aaaaaataag actttgttgt ttcgtcatgt tccggacgac 300  
acaccaacga agcattggct tatcgacaag ttcaagttac caacgagaac cttacggggt 360  
accttgt 367

<210> 689  
<211> 445  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-A7

<400> 689

cccacgcgtc cggtagtgga gaaatgttcc gaatcgtttc ctttcctacg actccaagta 60  
aagaccagaa accaggaact tcagggtttac gaaaaaaagt ggaaacattc agaaaacaac 120  
aatatttggt caactttgtg cagagtattt tcgactcgct tccagatatc caaggaaaga 180  
cacttggtgtt gggaggtgat ggaagattct acaactccaa agcaatacgt attattgccc 240  
gaatggctgc tgctaattggc gttggaaagc tgctgatcgg aaaggatgga ctcttggtcca 300  
ctcctgcagt gtctgcgacg atacgtcaaa gaaaactata tggaggaatt atattgactg 360  
ctagtcacaa tcctggagga gcggtgaag actttgggat caaatacaac gtttcaacgg 420  
aggtccagca ctggaaaacc tgact 445

<210> 690

<211> 457

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B2

<400> 690

ccgggtcgga cacgcgtccg gccaaacgtc cgaaatagtg agagtaatgg ccatagtgga 60  
agtcaaagcg ggaatctgag aggaggacag ccacgttgga actgacaata ggtccaaaca 120  
agagacgtca ccagtgggga caattgtgca gagtacaggg aaatatgacc caatattgaa 180  
gactgtagta aacagtggag gaagtaaaag gagggattga agggaagtta tggcggaaac 240  
acgtgccagc agcagtggta acacctgtgt agcaagcttt gagcaaaaca tctgggtgta 300  
aaagtcgatt aatagggcaa gtgttaaagg gaatggaaaa gggagaagga aggaaaggat 360  
gaagtgcagg aatctctaca gaaatgcctg aaggaaagca aaggaagaca cagtagatga 420  
cgcgataaat catgcgaagt gacacgggtt atgaacc 457

<210> 691

<211> 165

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B3

<400> 691

cgggtccgac acgcgtccga caaaaaataa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaataaaa gaaaaaaaaa aaagaagaaa aaaaataatg gatcttcaa aaagtaataa 120  
aggggagaac tcgggtggcg ctttcaatag tttggtgtct tgggt 165

<210> 692

<211> 355

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-014-Q1-E1-B4

<400> 692

gggtcggaca cgcgtccgcc cacacgtccg cccacgcgtc cgcncacgcg tccgcccacg 60  
cgtcgggttt tatgaaccag ttattcgatg gctaactcca tccttcgtat ctgtgactgt 120  
gccacaagtg atgaagacga cgactgacga agattcggtg tggagtacaa aatctggata 180  
tatcccacaa gtcattgtgg agagcaccaa tggacataag anaaagaata ttcgtcgtga 240  
aaagagccaa caattggaac cactaccttc attatccgat gtgattcgtt ccgttggtct 300  
ggtggcagtc gcacttcaag aaaaccaacg accagcggac aaggactcga aaacg 355

<210> 693

<211> 314

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B5

<400> 693

tccggtaaaa agatgatagt gtgtggatat aactgagtat cacgaagaag agacggacta 60  
tatgaggaaa gaacgatcaa ggaattaaga ttactagaag gagtaatgtg catgagggca 120  
cgaagggtact tgaacaagat agtgtatagc gcgtatcttt tgcacaatgt cccagcgagt 180  
caaagaggaa gcataaagaa tgataaagaa gtatccactt attaccctag gctagttgat 240  
cttatgctgt ccaagcgaat tcacgctgaa gcagtatctg tggaaaaaga tttgtaagag 300  
atcgcataag gggt 314



<210> 694  
 <211> 437  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B6

<400> 694

```
cccacgcgtc cgccacgcg tccgagcatc ttggttgcca cggagtttat tgtggttgtc 60
actgttgagt cgtttggctt tacaatatgt cttcgccctag taaacgtcgt gaaatggacc 120
tcatgaagtt gctcatggca gactatgagt tggagctctc ggaagagaac caagcgagtg 180
acttttatgt gaagtttcat ggtccttcgg aaactgctta tgaaggagga gtttggaagg 240
ttcatgtgca gctaccggac gcatatccct acaagtctcc ttctattggg tttgtgaata 300
agatatatca cccaaatgtg gacgaagcgt ccgggtctgt ttgtcttgac gtgataaacc 360
agacgtggtc gcccatgttt gatttgggtga atatttttga agtttttcct cctcagttgt 420
taacctatcc aaacccc 437
```

<210> 695  
 <211> 284  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B7

<400> 695

```
gaacagatgc cttcccagca aatacaatac tctgaaaaat attatgacga tacctatgaa 60
tacagacatg tcatacctaac tccgggcata gcaaaaactgg tccctaaaaa cagactaatg 120
tccaagcaa aatggcgcggt tctcggagtt taaaagtcaa agggtttggt atactatgca 180
aaccatagtg caaagcccaa tatattgttt ttctcaaaac cccaacaaaa aaaggggcaa 240
cagaatccca ataataattgg ttgtgaaaaa caacaaaacc ccca 284
```

<210> 696  
 <211> 153  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-C1

<400> 696

gggtcggaac acgcgtccgg acaaaggaag taagagtaag agaaggagta atgtgaatga 60  
aagcaggaaa gtatttgaag aagagagtgt aaagcgcgta ccttttgcac aatgtcccag 120  
cgagtgaag aggaagcaaa aagaagaaa aag 153

<210> 697

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-C12

<400> 697

agaattgagc ttcctcacca gaagaaatgg tctactatct cacaacacac gatcctgaat 60  
atattataga cactgggtaa agataagttt gaaaacgaac acttacttca gtatgggttg 120  
gaagaagacg tttgggtcca cgtgggataag cattcgtctg ctcacgtata cgtgagaatg 180  
cctccaggaa aaacgataga ggatattccc cctgatattt tagaagattg tgcgcagtta 240  
gtaaaatata actccatata aggaaataaa ctccacgggtg ttgtgggttg ttaaaactccc 300  
tggagcaact tgaataaaac aggaaatatg gatatcggac aagttgggtt taaagataga 360  
aagcgtgtta agagtataac tgtagaaaag aggaagaatg atataattaa c 411

<210> 698

<211> 475

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-C3

<400> 698

cggggtcgatc acgcgtccgc ccacgcgtcc gagcagttgt acattcaaca tcatcaaattg 60  
ccaaagggag gaaagaaaaga ttcttcaaag aaagaagcca caagtaaacc tgcagcagca 120  
gatgctacaa agacgacaga aaagtctggt ccggaagcca agttgaaggg aactgggtgca 180  
aagaacaat aaaaagttga ctatgcatgt tcctgttatg ttttgtgagt tctgtttgat 240  
agtttccagc tattcttttg gtagtgaata aagagaaaat tttttatatt taaaaaaaaa 300  
aaaaaaaaa aaaaaaaaaa aaaaaagaga aaaaaagaa aaataaaaaa aaaaaaagt 360

aaaaaaaaaa aaaggtaaaaa cttatgtaaa aagagaagaa acagaagaac aggggataaa 420  
 cgggtcaagca acacaagaaa tgaaaaaaaaa aaggggggggc cccccaagaa ggttc 475

<210> 699  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-C4

<400> 699

cgggtcggac acgcgtccgg attaattatc atggaattgg tatgggaata tttccaaaga 60  
 gagaatggat atttcctatc ttatgggggt ctccttggtc ctattcgtat tttccggata 120  
 ctogagttgt cgagttgccc atcgtttagtg gtgaagaaac agttatgggt gcagggtttac 180  
 agtccagaaa tggtgctoga gtgttattaa caggttccac agatatttgt gccaatactt 240  
 tacctcataa tagtgcgttt tgtagttggg tcgtccgttg ggctttggga caacgcggaa 300  
 tgcttcgaat tcggaattgg cgacatcgca cctcatgaa ccaatccacg acccatgcgg 360  
 tttccttttc ttcttcgaat cctacgagct accgagtaga agatgaagta gagtttttcta 420  
 tggatatgga agaattggat 440

<210> 700  
 <211> 132  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-C6

<400> 700

ggtcgcggac acgggtcgga cacacgtccg ggtaaattta atcaccaaca tcccaatcga 60  
 agatgccgtg gatgacaata tctaataagg gttctccttg atactggatg cgtataattc 120  
 cgggttattc ta 132

<210> 701  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-C7

<400> 701  
 cccacgcgtc cgagaaattg ttacctgcct tggagcagtt gaaatcctct ttgataaca 60  
 aagcgaagga atttgctgaa aatgtgaaga taagacgaac tcatttacag ggagccgttc 120  
 ctctttcttt tggccaagag ttttctggat atgttactca actttcctat gccagggaaa 180  
 ggttgcatte atgcctacce cggctatatt atttagctat tgggtgaaca gctgtaggta 240  
 ctgggttgaa tactcgcaag ggctttgacg agaaagtttg tgctgaaatt gccaaagtata 300  
 caaaattacc ttttcaacct gctcctaata agtttgaagc ccttgacgct catgacgcat 360  
 tggtagaatg taacggaata ttaaacta tagcatgttc cctaataaaa ata 413

<210> 702  
 <211> 453  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-D2

<400> 702  
 cgggtcgaat cacgcgtccg gaggaaggcg agcattgggt ttcttcccga gagagaaaac 60  
 gaggcaaaa gttgtctttc gatgtctagt gttgatgcgc atccaacaat agttttatct 120  
 cattatgtca gagctttaga tgaagaaaaa gctcaactac catctagttt tctcgagaa 180  
 tattcggaag agtttcaaca cattttaccc aagttgttgc agcgcggttt tcatatacta 240  
 accaaactga acaacaaaaa gggtaattta tcaaataatt cgaaaaactt tgtgttgagc 300  
 catccacata ttcacgtcgt tattcttcga agagccctgg atgggtgctgt tatttacctc 360  
 gcttacgtgg gttcccatgt acaaggtcct tcgggtttta tgcacggagg agctacagca 420  
 gcactgttgg acgactgtgt cagttctgca gtt 453

<210> 703  
 <211> 326  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-014-Q1-E1-D3  
 <400> 703

cgggtcggac acgcgtccgc tgtgaaacta aaggatgtag tggataacca attcattgcg 60  
 attgcagatt cctgtatcaa gaagctcaac aaggaatgga attatataca aaatgttgga 120  
 ctaagtcaag taagtcctgt ttcctgggtat tccatcggtcc aacagaccga cgagcaaagt 180  
 gtgatattga atgcttatgt ccaacacaag tttgtctctc atcgttttgt cgaagaaaca 240  
 aggaaaacca catgaaagga aaaagcanat gggataagat gtggacgtgt ttattcgctt 300  
 atgaagaaga aaactggtga atacaa 326

<210> 704  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-D4  
 <400> 704

gggtcggact acgcgtcggg cattactttc tggctatggg acaagagatg atcgatcata 60  
 gcctggcatt gggtattcctt ttgtattttt gtgctttaga gtcgtttcctt ttctttgctg 120  
 tcacgcgtca aacgaaaagt caggaaccag aagtacacaa cggatttgct agagcctttg 180  
 gattttctctt tcttgcagaa tgtctttggt tgctatgttg ggtagtttct attcagttat 240  
 ctacgagatt tagtgtgcag tttctgaata gagtttttat cattttcttt gtacttggat 300  
 tgattgtttc ttgtatagga ggaggttacg ttgctatccc ggaatggaga cgtcgtagtt 360  
 tgcgtcattt cattgtagtt ttgtgttttc ttgccacggg tctctattgg ttttcttttt 420  
 catcgtcgtt gggagttgaa ttggatattc cttttataga catc 464

<210> 705  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-D6  
 <400> 705

gggtcggccc aaacgtccgg ctaagtcgga agagtcagac aacgaaggcg tggagatcaa 60  
 gttagagact gcacctcatg atcctcgctt ccaaactact aatcaagcca agcactgttg 120  
 gtcgagatac atcgagtatc acgcttgtgt gaaacaaaaa ggtgaagagg acagcgagtg 180

tcaaaagttt aagcgatggt acaagtcact gtgtcctatg gaatgggtag aaaactggga 240  
cgaacagcgt gccaacggta cctttcctgg tcccgtgtag ttgtactgtt ccacgtgggc 300  
ccttttggag tttaactgac ctgttgtcgg tattgtccgt atggcttttt ttgttcaata 360  
aagttttatg tggtagattt tatgttcgc 389

<210> 706  
<211> 318  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-D7  
<400> 706

cggtcggcg aacacgggtc ggcccacacg tccgcccaca cgtccggaac gtgctgtgaa 60  
gtgagagaac gtacgagaaa gccaaagttag gaaaagaagg caagtagagg gcggcccag 120  
aaaggagagg gcgtaagacg tgatacagag taggaagaaa agagaagaga gctagaaagg 180  
aggtaaaaga agagtaaaag gactagaaga ggtacggaat tcacgaggaa ggagcgtgaa 240  
ggaaggagga atcccaagta atcgaggaag aaaaagcttc ggtgaaagcg tgaacggatt 300  
ttgtacacac tgcccgtc 318

<210> 707  
<211> 298  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-D8  
<400> 707

acgtccgccc aaacctccgg aatctgctgt caaatgagag aacatccgat aaagccatgt 60  
accgcataat acgcacgtcc aaggcagtcc tcaaaccgag caggcttgat acatgataca 120  
tcgatatgca cacattgtat gagacctaga agtgaagtag acaacgagta tcacgactat 180  
aagcgggtacc gcattcaaca ggaacgaacg tgaaggaatg gaggaatccc aactaatacc 240  
ggaacaaaaa gcttctttca aaccctgtac ggattttgtg tacaatgctc gtcaattt 298

<210> 708  
<211> 428  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-E12  
 <400> 708

agacgacatc tgcttccgaa cactgaaact gagtaatcca agctatgggtg accttaacca 60  
 tttggtttcg gcagttatgt caggaattac ctgttcgtta cgtttccctg gacaactgaa 120  
 tgcagatcta aggaagttag caaccaactt gattccattt ccacgtctac actttttcat 180  
 gattggattc gcacctttga gttcaccagg ctctcaacaa taccgttctg ctagtggttc 240  
 tgagctgact caacaaatgt ttgatgcgaa gaacatgatg gcagcatgtg accctcgtca 300  
 tggtcgttac ttaacagctg ctgcgtatct ccgtggaaat atgtccacgc aagatattga 360  
 tgatcaaagt ttaatatcc agaacatgaa ttcttcctac ttttgtaaaa tggaatccca 420  
 aacaacat 428

<210> 709  
 <211> 307  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-E2  
 <400> 709

cggtcgatca cgcgtccgcc cgcgcgtccg cccacgcgtc cgaacaatta aaaaagttca 60  
 aggacaaatt gtagataaaa aagaaaaaaa aaaaataaaa aaaaataaaa gaaaaaatgg 120  
 cggcgggtcca acactatgaa tgattgagtg catgcttctt gaatatattc gtttatgcag 180  
 gatatacctt catgacgttt aggtgggtggg gtttcagatg cgtcaccact gcttgaggat 240  
 tgggggttcgc cttgattatg gaatatcagc ttatgctagt ttggctgggg aacttatgcc 300  
 tgagaag 307

<210> 710  
 <211> 483  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-E3  
 <400> 710

gggtccgacat ccgggtcgag cgcgcgtccg ccgacacgtg ggcggacgcy tgggcggacg 60  
 cgtgggtggt tggggtggga aaccacaaga tggcttttca acaacacgaa caagatgaac 120  
 accaagcaaa acaagggttg aagtcgatga taccaccaac ctattggaaa tcaaattgtat 180  
 ctgtgttatg gaatgaacga gtgaatgtgg ctcttccttc gtgggaaacg gtatccaaag 240  
 ccagcgagac gataagcaga caggtaaaag agtcggcaaa ggaactaggt gggtttatttt 300  
 ctgcagaaga agattgttta caagcaacat cgtcatctgt aaaaaaagca ccttgggaag 360  
 tgttgacacc aaaggaaaag ccttttgcaa aagaaataga agaaaaagta ctccatatga 420  
 cgagagaatg ttatcagtct aagaaacaaa gagaagaaac gttcctttct ctctcttcgt 480  
 tgc 483

<210> 711  
 <211> 316  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-E4  
 <400> 711

gtccgccatc cgggtcgatc acgcgtccg caccacataa gccatatctc caccaatcaa 60  
 ttcaagttgt tgtctacaag ccaactgtct acatagtata catatgtgac ttgtcgtttt 120  
 attgcaacaa ggcattcaagc tcctaaacct aacatttgct gaactctttt cactgtcgag 180  
 tcttgagaca agtcgtacgg ttggtctttg ctgggtatct ccaaaactgc cggaatagga 240  
 gcacgatagc tatgcacaag ctacgaatt ttctcgcaa ccttgtagct atattaaaac 300  
 agcataatat atctac 316

<210> 712  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-E6  
 <400> 712

attcacacag agttagctc aaatgtggac ttgaatttag cgatgagttt tcggttttcc 60  
 cctggttctc gactcctgtt ggtagacaaa cttgagtagc tttctctcct tttgtcaaag 120



cagtcttctt gcgtccagtc ttttgttcgc gattagcctg cttgatttgt tttttaaaaa 180  
 gttacagagt ggtgtatcgg tccctatttg ttgtgttccc ttgaacaaag agaaataggt 240  
 tgtttaaagc aagacaagga agcgtttgat ggactaaaaa aaaaaaaaaa aagaaaacat 300  
 aacaaggatg tacaaaatca agaaaaacgt tcagtcgaga tccgacgcca taagaaagaa 360  
 aaagctaaac taatataaaa aaaaaggggg gggcccccca aggggtctaa gtttaacttc 420  
 ccgttaaagg gaatttaaa 439

<210> 713  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-E9  
 <400> 713

cagaagagga gttatgagag aaaagatgga agtaatagaa gtggtaagtg gagtaataat 60  
 gaatcatatg aaagaaggaa tggagaatat aaggaaggat tacatgaagg aggagataat 120  
 aggagaaatg ataagggtgga tatatatatc gataataagt gtgatagtaa tataaaggag 180  
 gagaaagaga ggaaagaggt gtatgatgca ggcaaagaag tgacgcagta gatcagagag 240  
 taacacatgc aagtaggtaa agcgaacggg tgagtaaaga ggtgtgaaag agtggaagaa 300  
 catgaaagca cagaagaatg taagaaatgg ttagagtaaa aaccataaag gaagtaaaag 360  
 cgggaatc 368

<210> 714  
 <211> 492  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-F1  
 <400> 714

gtcggcaagc cgggtcggac cacgcgtccg gaagacattt catggcaccc aaggaacgta 60  
 gtaaaccaaa gagtgcgtct tctaaagccg gccttcagtt tccagttgga cgtgtaagta 120  
 gattcttaaa gaatggaaac tatgcagaaa gagttggagc tggagcaccc gtgtatttag 180  
 ctgcagtttt ggaatatattg actgcggaag tgttggaact ggcaggcaat gcagctcgtg 240

ataacaagaa aacccgtata gttccacgtc atattcagtt ggcagttcgt aacgacgaag 300  
aacttaacaa gctgttgggc ggtgtgacta ttgcttcagg tggcgttctt cccaacgtcc 360  
atcccaatct gctaccaaag aagaaggcaa aggaagacat gcagtaaagt tttccttgag 420  
ctggtgtttt tgaacaccac ctttataaga aacttgtcac tttattggaa tgtattgaac 480  
atgtgaaacg ta 492

<210> 715  
<211> 134  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-F2  
<400> 715

cgggtcggac acgcgtccgc ccacacgtcc gcgcaaataa gaaatgctat ttggtccttg 60  
gagaacttga ccaaaaccga ttgcggttat gcttctattg cggatgtcca acaacatcaa 120  
cgaggagata tgat 134

<210> 716  
<211> 372  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-F8  
<400> 716

cccaagcgtc cgcccacgcg tccggaagca tcgttgtcga tattttttaga aaactttgct 60  
agcacacttg gtggacgtca gcaattggaa attgctgagt tctcggatgc gttgttagta 120  
ataccaaaga cacttgetgc caatgctgct ttggatgcta ctgaaatgat atcaaaactt 180  
cgagcagttc acaatgcagc acagtcagac tctaacaagg gcaatctttc acatattggc 240  
ttagatttgg aaaacggtct gttgagggat aatttgaag caggcatctt agaacctgct 300  
atgagtaaga tcaagtctat tcagctagct acggaagcag cgattaacat cttacgcatt 360  
gatgacctta tc 372

<210> 717  
<211> 425  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-F9

<400> 717

```

caaacggaaa gggtgcaaaa ctttggagtg cgtccacgat tgcagagcac ttttggcttg   60
cgtagacttc tgtagaatta gactcgacac ttttttattt tgtactttga gtagatgaga  120
gctgtgattc aacgtgtcag ccaagcttcc gtaactggag gaggaaggt cgcttccatt  180
caacaaggta ttaacttgag acagggtttt atgagtaaag agtatggagt gccagggtctc  240
tgcgtacttt tgggcatcgc tgcggaagac acggaggaag atcttgaata cattgttcaa  300
aagacacttc aaatcaaagc cttttcaggt gaagctgaag aagaaagatg gaaaagaagt  360
gttgtcgata tacaagggtga aatactgttg gtatcacagt ttacattaca tgctgcgttc  420
aagaa                                           425

```

<210> 718

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G11

<400> 718

```

ttctcgggtga aatctttggc ttcactcgtt cctatctttt ttggtttggt tttggcttct   60
tttgcggaat caaacgttac tgcagagggt gagaattttg gaaccaaaag gtcgattctt  120
tttggttctt ttgcgagcat attgtccaac cttttaggag tattccactc tctgtttgca  180
aaatcaatgc tttcaaagca actgtctcca ttaacactac agacttatca gtccggcatt  240
ggctgttttt tagtgtttcc cttattatta tacgattgga agttcttcca cgaattgaaa  300
gatcgacaag tcttagcaat tctcctcttc aaaggttcgc tttcatttgt acagttacac  360
gttgccttga aagtgttgga caagatgtca acagtgggtt tt                               402

```

<210> 719

<211> 453

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-014-Q1-E1-G2

<400> 719

acacgcgtcc gcctaaattc tttgtgcatg gacaatgggt gcaaagactg ctctgagttg 60  
cctctttctc tctctcctta tcgctgccgc agttgcagcc gacgtagttt cagaggagag 120  
atggggatat gctcagcaaa cccaacaaca gcaacagtgc caacaagtat gtaaacagta 180  
tgcatactat cagagtccag tctgcacttc cgtaaccaca cagagcccat actggaccca 240  
atgctcgaag actgtgcaaa cctttgtccc aagccagtgc agtacttata cccaatctcc 300  
tacatggacc tattgcagca cctacaccac cactagcgta ccatctcaat gcagcaaggc 360  
cgtgactact tatactcaaa cctgctgtgc ttatgcncaa canacttcct atgcagtcag 420  
taccgagcaa tatgttcagg aaactgtatc cgc 453

<210> 720

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G4

<400> 720

gggtcggacc acgcgtccgg ggaggatgac gatgatgaga agaggcgggt ggtggttggt 60  
tcgtgcggta acaactgcaa ccacaaaaac aaatatgttg aagagagctt cgactagtat 120  
ttatgacagt aaatgtgaga tgagaaaacc caattggaat acttttttgc gatcctattg 180  
tacttcttgg gaacccaaac ctttagaagc ctttcggtta gggtctggca tagcctttag 240  
taaaaacgtg tatatggatc ctgaacaagt tacggagcga gtattggaag ttgtgaagtt 300  
gtttgaaaag gtggatccta gtaaagttca tcgagaagca gattttgaaa aggacttggg 360  
attggatagt ttggataccg tagaactttt gattgctttg gaagatgaat ttgaagtgga 420  
aatacctgat gaacatgccg aacagatgag caattg 456

<210> 721

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G7

<400> 721

cccacacgtc cgcccacgcg tccggtatta aaaaataacg gttatcctgc agaaatagca 60  
tctctagtag taggacgtgg tgcgattgga gagaaattgg ccaaagatag ccgattgccg 120  
ctgatatacct ttaccggatc gaccaagacg ggacggcatg tgtcaaaact agtgcatagaa 180  
agacttggaag agactatctt agagttgggc ggaaataatg cagttattgt tgataaggac 240  
tgcaatttag atatggcact tcgagctggt ttatttgggt cggttggaaac tgctgggtcaa 300  
cgttgacacat cgacaagaag actttatctt catcattcca cctattccac cttt 354

<210> 722  
<211> 370  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-H1

<400> 722  
cgggtcgaga ccacgcgtcc gccacgacg tccgaagaaa gagtcgaaag gctttttttt 60  
tcgtggttcg atgggtggat tgtgcaatat tttttgacaa tgaaaaaat attgtacatc 120  
tactgaaatg taagaatgaa tgagaggaaa gaggtgtatg atgcaggcaa agaagtgcac 180  
cagtagatca gagagtaaca catgcaagta ggtaaagcga acgggtgagt aaagaggtgt 240  
gaaagagtgg aagaacatga aagcacagaa gaatgtaaga aatgggttaga gtaaaaacca 300  
taaaggaagt aaaagcggga atctgagagg aggaaagcac attggaactg agaaaaagtc 360  
aaacaagaga 370

<210> 723  
<211> 454  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-014-Q1-E1-H10

<400> 723  
gggccgaccc aagcgtcagg gaaattgttg gattctttgt cgagaatgcc ggctcccttg 60  
attcgtcgca agtctttgaa aaaaagaacc aaaaagttca aacgtttcca gtcggatagg 120  
tttaaaagag tcaaggaaag ctggaggaaa ccaaaggga tgcactgcag agtgcgtagg 180

cggttcaagg gttctacttt gatgccaag atcgggtatg ggacagataa gagaacgaga 240  
cacttggtgc caaacggttt ctacaagttt gtagtaaata atgtgaaaga attggacgct 300  
ctacttatgt tgaaccgcaa atatgcagca gaaatagcgc acggagtatc cgcaaagaag 360  
aggaaggaaa ttttggaacg agcggcggag ttggatatca gagttaccaa cgcacgtgga 420  
aagttgagag ctcaggaagc tgaatanaaa tcgt 454

<210> 724  
<211> 344  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-H11  
<400> 724

ccacgcgtcc gccacgcgt ccgccttggg gggcgactct gggactggt gcgtttgtta 60  
atcgaccccc aacctttcct ccctgttggc acggaaagggt agggggcggt ttggactcaa 120  
tttccgtgta acttctcaat tcacttgtaa taccacgctg aaaagttgag ttcgtagct 180  
ccagaactaa accgggtcag atcatatggt aaccgctcac ctggaacttc agtccacaag 240  
atcagaactt ttcgtcctca gccacaggaa ctgcttaaga gaagtgatcc ctcaccctta 300  
acaatgatcc cctacgggaa gttagctcaa gtaacgcttt ttgc 344

<210> 725  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-H12  
<400> 725

ggaagagatt cttttggaac ttctgtggaa gactcacttt tgggaatatc ttcttcccct 60  
gtacaactta ctaccaagga atcctcatct atcatatcga gtatgcttcg tttcaaattg 120  
gctctactgg agagttttcg tttcctcaag taatactttt gtgcgtgaga ctgacactga 180  
ctggcacttc tagttccaac ataatctgca atctgtatcc agtttccgtg accaaacttt 240  
ttcaaagcta caagaaaacg ctggtgttca tccaacttcc aggcattttt gaattttctt 300  
gaactgcttt gcaacggaaa caacttatcc gtaaagaatg gaccggaata ttccgaacag 360

ttatttggaa cgtttcttgt tgtttcatca ttctgcttgt gaaacggaca ctgaccaaag 420  
cgcgacacaat at 432

<210> 726  
<211> 362  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-H4  
  
<400> 726

cggggtcggaa ccgcgtccgg cccaagcgtc cgggaaatcc tgttgactga cttgtgtggc 60  
tatccgctga gtggaatgac aacttttctt cctaaacttg aaacccttg ttcaaagaaa 120  
aatgtagtgt gtaagcgata aggtgaccaa cgacttgagg aaaccgagag attcccttta 180  
ccacagcaac taagcatgta ctcaagggac tcgaagacag tcaaaaaacg agagccagac 240  
ttagaaatca catataccat gttttggcca tgtactgtct ggatgcttgt gactcattca 300  
agtacatcac aagctatcat ttcgacctaa tccgtcctgc gcgttcgttg aacacacaat 360  
ac 362

<210> 727  
<211> 258  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-H5  
  
<400> 727

ggtcggtagt ccgggtcggc cagcgtccg cggacacttg gttggaaaga aaaggtggaa 60  
ttggtgctgc aaaaagaact ccgctaaggt caaaacctcc cctttttgca aaaagagaaa 120  
gggaagaagc aacaacgaaa cattcttcac gtctgcgtc ttcgctggcc aacgtgaaga 180  
ataaccctac gagtggaaac caaagagaga agaccaacca aacgacgacc cctccaactc 240  
agaaccctag tatgacct 258

<210> 728  
<211> 479  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-014-Q1-E1-H6

<400> 728

accggtctgg gattccccgt ccgacatagt ctccagtggca gccataaaat aggttaataa 60  
tttggttact ctgtttcaat acagaatgaa taggactagt tggaggtaac aaatcgtatc 120  
ctgagtaaata ctttcttcag ttgggacgct atcctggaat tacataaata ctagctcacc 180  
tctatttcaa gttcgcctga attgcacaac tttaagcaaa catacttctt tagatgtctt 240  
acagtgatat ccggtggcac tcttaagaac ggtttcccca ttgacggcaa attggaacct 300  
tggattggtg aaagctgtaa caaacaccag tggctatttg tatttctaaa aggcanccga 360  
gcaacggggg aagaaaggtt gtcgtattct gcaactgacg ctgctgtttt tggcgtttgc 420  
tgtttctccg cttgattgga cggtatcgat atcgctgga actcctcaac atcttcctt 479

<210> 729  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-H7

<400> 729

cccacgcgtc cgggttgttt tcttggtagc agttgtacat tcaacatcat caaatgccaa 60  
aggaggagaaa gaaagattct tcaaagaaag aagccacaag taaacctgca gcagcagatg 120  
ctacaaagac gacagaaaag tctggtccgg aagccaagtt gaagggaact ggtgcaaaga 180  
aacaataaaa agttgactat gcatgtgcag tcctgttatg ttttgtgagt tctgtttgat 240  
agtttccagc tattcttttg gtagtgaata aagagaaaat tttttatatt tacacaaaaa 300  
aaaaaaaaa aaaagaaaaa aaaaaaaaaa aaaaaaaaaa aaatgaaaaa acacaagagg 360  
aacaagacg gaaaagcaaa aagcaaaaaa aaaaaaaaaa gggggc 406

<210> 730  
<211> 231  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-H8

<400> 730



tacgtagcac gattgtccca actatgcatt tgtttcttcc agaaaagggtt gctctcgtaa 60  
 ccgttattag tattgttggt gcaggagttg gatattttgc atacacacag tggaatagaa 120  
 agtcggacaa cgacaaatcg gacaaggaaa aataggaaga gctgatagga ctgctttgat 180  
 attgtggacc agttgccttt gttgcgaata aaaaataggt gttttttgtc c 231

<210> 731  
 <211> 325  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-A10

<400> 731

aacgactcac caaaatgtcg tacagcaaca aaacaaaaaa gaacacacgc gagtccaaaa 60  
 ccgagtcgag tcaagaacat agttatgatt ggagtgagcgt ttgggaaaga gtgcagggttg 120  
 gaggttgtgc aggaagttaa gagccgtggg cgccttgtgg gggtatagtt cacaaagtga 180  
 tggacgagat tcttcaaaag gaagcaaagg ctcgagccga gggtaagcct acatacgtgg 240  
 atcccaagac gggatacacg gttctcactg caaaatacct ggcgtccaca ggatactgct 300  
 gtgggaactt tttttatact gccca 325

<210> 732  
 <211> 278  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-A11

<400> 732

cgcgtccagt tatectggta gcagttgtac attcaccatc aacaaatgcc caacgcagga 60  
 cagaaacatt cttcaagtaa agaaccaca agtaaacctg cagcagtata tgctacaggg 120  
 acggggccaaa attctggtcc cgaatccaag gtgggggggaa cttgtgcaac taaacactcc 180  
 aaagttcact atgcatgttc ctgttatggt ttgtgagttc tgtttgaaag tttccaccta 240  
 ttcttttggg actgaatacc cacaaaattt tttatcac 278

<210> 733  
 <211> 294

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-A12  
 <400> 733  
 aaccactctt cgcgccactt cgtccgccga caccaagaaa agaaacgaca catatatcca 60  
 caaagtttct ggtcattcct taattggttt aacagcagca ctctatacta aataggagac 120  
 ttccaaatat cgttcgaaac ctaaaggggg ggaactgatg aaaccagaaa ccctgatttg 180  
 gaacatacag cacccaaaca cacccaatcc attacctttc aaatcatcca caccttcgta 240  
 tagaaatcca ctttacaaca acaactttct taaactgcac tcgatcacga ttcc 294

<210> 734  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-A5  
 <400> 734  
 gtccaccac gcgttcgaac gctacatcaa ggaaggaacc cgcattcagct atggagagaa 60  
 aacgaggtcc tcttcgttcc aaagctgccataaatgttaa aaacgtagag caaaagaatg 120  
 gcgtccatac agaatagaga gataacggag tctcaaaggc agagatggaa aagctttctc 180  
 aagaacatga ggaagaaaga ggcaaatatc ggaaagcagt aaaagaagaa agagaaagga 240  
 aaaaactgag tatcaggaag aaaagaggga gtagatgagg aaagaaagat caaggaagta 300  
 agagtaatat attgattaat gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtaa 360  
 agcgcgtacc ttttgcataa tgtccc 386

<210> 735  
 <211> 167  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-A6  
 <400> 735  
 aacagcacta actgtgacat tgcagtaaac taccattatg attgggtcag ggatatttct 60  
 tgactatata ggtggaggga ggagagagat ccatcaatta catcatgtgt ggtaagatat 120

tacagaccag tgccccccga taaggaatct aactgagtaa agaaaat 167

<210> 736

<211> 344

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-A7

<400> 736

cgtccacacg ctttttgaat tgcattgttt ttgagatcac cccaacactt gtacactaaa 60

tgaacgacgt atgggtacta actgtgcatt ttgtatagat atcaaggagg tcaaatgggt 120

tatcaactac gatttcccg ggactagaga ggactatgtt catgcattg gtcgcactgg 180

tcgtgctggg gcccttgga agtcccatc gtttttctact ccggataaat tccgtgttgc 240

gaaagactta gttaacttgt tgcgacatgc tggacaggac attcctcccg agttggctcc 300

ttttattttt ttttcgtcct ttggcggtaa caacacaaac tttt 344

<210> 737

<211> 353

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-A8

<400> 737

tgaccacggt atttaccaa caaactcgaa cagttttggg gccaggctcc accaagttga 60

tttatcgaag tgccgcggtg ctcttggcaa gtggccaagc acttccagaa cacggtttga 120

agccacttcc cccaccacc agttaccac atcgaaaaca acccccagg cgaccccccc 180

cccctcctcc acacgcactc acctaccaa aaaaaaagc cacacctccc tttttttttt 240

tctacccccg cgacccccac caccctctc cctcgcgcc aattccccac tccccactt 300

cccgcactct accccgcac ccacctccc ctttaccoca cgcccccccc ccc 353

<210> 738

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-A9

<400> 738

cacgcgtcca cgcaatcggt ccacgaacga gaggggtttct aaatgacttt gcgcaccttg 60  
cagttttctt tggacttgct gttggtgcgc ttttttttgt ggactgtcg acgctgagtt 120  
gtttctagaa agaacacaag gccttgttta ggggaactga ctatttacct tcgaagcact 180  
ttacaaggac aatggagact acaaacaggt cagggtgcagg agactttact tacagggagg 240  
ctccccctca atggcgccat gactctttca gctcaagggg tggttcctat tcgctcgata 300  
atcatagctg gtttctttct aacagctttc actcatattc acgagcaagc acggaaccgg 360  
ctgcctatcg aagcgtggcc ggagtttccg ctaacgctaa ctttccttcc t 411

<210> 739

<211> 231

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B10

<400> 739

agcaaactgc cctctattag ggcagtgcga aagattaccg tttggggcat ttttaggcac 60  
ttttcatttc ctccacgatg aacgaaaaat ttgaatatat tcttatatgg cggtaggaga 120  
gtggcatgga aaatttttga aggggggcta caaggtatta acaggaagaa accttccaac 180  
ttccaaaggc ttaaattgct tttcccaaac tgaaaacccc cccttaaaat g 231

<210> 740

<211> 243

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B12

<400> 740

aggacaagag aacatgcact tctggcttat accatgaaag tccgtcaact aatcgctcgt 60  
gtgaacaaaa tggatgacaa gaacgtgaac tgggtcaaagg accgttatga tgaggtttcc 120  
aaagaaatgg acctttactt gagaggggggt cggatataat ccaccaaagg ttccaaagat 180  
cactgtatct ggatggactg gaaataacct ttttgagaaa ttccctgcca attatccct 240  
tgg 243

<210> 741  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B3

<400> 741

```
cccagtcgtc caatggagtt agtgcagagt aagcagacag cgatatgtta ggattcacag 60
gtctgggttt aaaaaatgag aaggatatta ctatcaaagg ttggaagca gtgaaaaatg 120
caggtttggg ggttctggaa agctatactt cctgcttgg aggtagtaga cagtccttga 180
gtgtatttta tggaaaagaa gttatggcaa aaacacgtgc cagcagcagc ggtaaaacgt 240
gtgtagcaag cgtagagcac aagaactggg tgtaaaggtc gagtagtaca gtaagtgtaa 300
aagggaaagg aaaggattat atttatatta tggatgaaat gcagagatct ctagacaaag 360
gcaagaaaga aaagaaaaga agacacacta aatgaggcga gaaa 404
```

<210> 742  
 <211> 198  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B4

<400> 742

```
acgcaaccgg gaaatattgt tggaactgga aatctggaat cccgctgaag actcctaaac 60
actcaaatca gtcaaggaac ccaagcatga gcccaacaac atgtatgcgg attgggttct 120
atggactgct ttattcaggg cttctgcgat ggtaatttt attgcattat aaacggatcc 180
aacatgacgt attcttac 198
```

<210> 743  
 <211> 316  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B5

<400> 743

```
gtccagaaaa gcgtgtatag taaagagtat taatggtaac ccaaagcata agaaaaataa 60
```

agcttggcag ccaccaaacc ctgcagaact cggcaactgg attcataggg gaaatggaca 120  
cgttgtgcac gtatggtagg gagaaagggg gataataaac ctctttcaaa ggggaactgg 180  
ctttccaaga aagaagccag taatttttga aaaaaaaaca ctaataaaac ccacaaaaaa 240  
ggaaaccccc caacaaaaac aaaaatctaa ataccacact aagaaaaacc caccacacgac 300  
tccttttttt tttttt 316

<210> 744  
<211> 307  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-015-Q1-E1-B6  
<400> 744

cacgcgtccg aacagttgac aactncttta tcgatgtaaa taatggagtt cttgttccac 60  
caccaccaac ttccgccaca agtgctcttg gtgctgggac ttctgctccc gtcactacag 120  
gggttccggg cagcgtaacc agtgcaccaa tctctacagg aattccaagt ggtgttataa 180  
ctccacgaat tccaactggt gttataaata caagtgttcc gactagtccc cctcgtgttc 240  
ccaatggagc ttctattata aaaaaacaag ctgcctacat ccgtatatatt ttttatctca 300  
aatctcc 307

<210> 745  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-015-Q1-E1-B7  
<400> 745

cgccacaaac ctaattcagc tcctcctcca ctctgtcaag caccaactgc tgctgtcaca 60  
atcttttagat agccgcagaa gactcttcca tcctcgaatt gctaccagtc gcctcggggg 120  
tctctaaaag acgctgctgg tgatcggggg taatacaagc ttgagtgatg ggctccaaat 180  
ctccttgcaa aaagctgtct aaagagaaat tcatacccaa acgatggtct gtcacacgtg 240  
cgtccttata gttgtaggta cgaatctttt ctgcacgggc acctgaacca acctgactac 300

tcctcattct tgtattggct tcctgttggt cctttaaacg catttcatac aatttggcac 360  
 caagaatttg aaaagcacgt tccctattct gtaactggga cctctcttct gtgcaaaaata 420

<210> 746  
 <211> 298  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B8

<400> 746

acctggaccc ttatgacctg cctaccccc actttgatct tggcatctgg caatattcca 60  
 ttcttttttt tcgagatccg gtgcaactat tcaaaaatct tcgcaactcc ttggttccta 120  
 aactggaac cccccccaca cttacacggg caccctaaa acaatatcag gtgcttcccc 180  
 cccccccac gtttctgca ccccccaaaa aaaaaaaaaa ccctcaccat catttttttt 240  
 ttttttatcc accctacca ccccccatcc accacgacac accaccatt ccctcccc 298

<210> 747  
 <211> 115  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-C10

<400> 747

caccggtcca agaattaatt tcaacttttg gttattgctg ctaaaaaatt tcgtcttgaa 60  
 actacttttt ctaacaacaa tccaatccaa attaagggcc atttaaaggt tttcc 115

<210> 748  
 <211> 109  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-C11

<400> 748

cccactcgtc caaggacaac tttaaccaca tttaaccaatg tgataaaaac ttatccttca 60  
 taacacaata taaacaacaa aaaaataaaa tcaacataac cacacaatt 109

<210> 749

<211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-C12  
  
 <400> 749  
  
 aaggacacgt gggctttgtg cttggacaat ggtagcaaag actgctctga gttgcctctt 60  
 tctctctttc cttatcgctg ccgcagttgc agccgacgta gtttcagagg agagatgggg 120  
 atatgctcag caaacccaac aagaggagca gtgccaacaa gtatgtaaac agtatgcata 180  
 ctatcatagt ccagtctgca cttccgtaac cacacagagc ccatactgga cccaatgctc 240  
 gaagactgtg caaatctttg tccaagcca gtgcattact tataaccaat ctcctacatg 300  
 gacctttttt ttttatttac acaccactag cgtaacatcc caatgcatca aggccgttac 360  
 tacctata 368

<210> 750  
 <211> 238  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-C4  
  
 <400> 750  
  
 gtagttcatc aaagatgaga caccacttca atatggtgta agtgcttctc tttggactgt 60  
 tcgtctcttc ctctacacag ttatttttagg attctcggcc actatcattg gcttttatgg 120  
 gggtaaagga gacaacatat ggaacgacag cttattctat gatgggaagt acattaactt 180  
 ttgtgcttat tctgcctctt ctgttgata acgacgggat cactgaccct gtaaatat 238

<210> 751  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-C5  
  
 <400> 751  
  
 cgtccacca cgcgttcgcc cacgcgtccg agcacagtaa acacagaagg ggacaaaaaa 60  
 actaagtttg ctgtcagaaa ggtctattca ggcaactagt gcgcgaaacg gttttctcga 120



gaccctctaaa tgaaggacaa tcgggtccgg ggtcatcttc caaaaatacc ccacaaagtt 180  
cttcttccga gaaagttcct acttgaagg aagtgatgga ttccacggca accacattgt 240  
ttgcaacgga aatgattcga ggacttatga tgacccttca gtatttcttc caaccagcgg 300  
taaccctcat ttttcttagt gaaaaaggac ctctttctcc tcgttttaca ggggaacatg 360  
ctcttacaac atatccatcc cgacaggaac c 391

<210> 752  
<211> 362  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-015-Q1-E1-C6  
<400> 752

cacgcgncctg aaggcggcgt caaaatagag agcccacccg agtagaagaa aaaagagaga 60  
agaaagaaaa gaagagaaaa gccgtactga agaccgacac aggtactcgg ggagaaagga 120  
gacccttttt aaggggagag agtggacgat aaggaactag gcaaaaggat atggtatctg 180  
cggtagaaca tatcacacaa gcagcaccga ctgttttagca aaaacacagc actctgcaga 240  
ccccacacca tgtaaagtat acagtgtgcg gcctacaaaa tactacagaa caaatcgatg 300  
atttttatctt ccagtaccag atgacgtata gagaatggcc gtcctaactg taaggatcca 360  
aa 362

<210> 753  
<211> 287  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-015-Q1-E1-C8  
<400> 753

tgacaaaaat agagatcaac ttttttttaa aaaaaaagaa atgactggag ataagtcac 60  
tcaggaccag gcgaacgata ttggggccca ggcacgggac cgtattattt atgggggaac 120  
tgggatgaac gaaagtgtc aaaatgcacg ggacgccgtc aaggacaaga tgtccccccc 180  
gaacgagtcc gtttccacca aaaaaaaaag tctgaaggac gccccccca cctagatact 240  
ccgaggtcat ctcaaaaata acatcctgtc cgcgtttatt tttttttt 287

<210> 754  
 <211> 60  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-D10

<400> 754

gtggggcaga tgatacacat cgacaaacaa aaacactttc ttctctcaca cgaagacatt 60

<210> 755  
 <211> 353  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-D11

<400> 755

acaagactag gaaagaggca ttggcagctt atttagaaag caaaaaaaag gaaacgagtg 60  
 aagtggaaca agaagttgca caattaaagt cttataatga ctctgctctc aagtcaagtc 120  
 gggggggcttt ggatacagct tatagtgaat acgggggagag tcacaggcag ttgtatcaag 180  
 aaaaggaaca aatgaacgac tctctttttac aaagtattga actgccaaact atgttcaaca 240  
 tggaaattcc ttaaaaaatt acctttttaa acaacaaaat ttggaaaagt cctttaattt 300  
 gtttggcccc taatcttttt ttttttttaa taaaaccaa tttgtaagtt ttt 353

<210> 756  
 <211> 89  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-015-Q1-E1-D2

<400> 756

tgnaacctct tcaattcttc ttgcttcaaa aggagggtcg caggtttttt aangtnnatg 60  
 ctggtnnnnn ntttggttct gttcntctt 89

<210> 757  
 <211> 387  
 <212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-015-Q1-E1-D3

<400> 757

```
agtgatttcc taaaaaggga atccnggaga atatgtgtac accttggcta gacttttttag 60
tgaacaatat gtacgaagac cttcgagctt tggccagggg gcaagcggaa gatcttcaaa 120
ggggacaggg tgtgcgagcgt cctgtgagta cagccaactc aaatacgaat tctcagacga 180
ctccagctgc atcgaatgat cagaatgaca accgttctca agcttggcac acgcagaaca 240
gtgtacaaac tttggagcgt gaacaagttg ccaaacaac gaaaatactt cttttctatt 300
ggttgccacg aggtgaactt gcacgtcgca ttcagccaac taccgatgca caacgtgctt 360
tccgtatccc gattattctt tcctcca 387
```

<210> 758

<211> 425

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-D5

<400> 758

```
cgtccaacca cgcgtccgca agaaggtggt acacggggat cccagaacg tgctgtgaaa 60
tgagagaacg tacgagaaag ccaagtgagg aaaagaaggc aagtacaggg cggcccggga 120
aaggagaggg cgtaagacgt gagacacagg gggaagaaaa gagaagagag ctgaaagga 180
ggtaaaagaa gagtaaaagg actagaagag gtacggaatt cacgaggaag gagcgtgaag 240
gaaggaggaa tccaagtaa tcgaggaaga aaaagcttcg gtgaaagcgt gaacggattt 300
tgtacacact gctctctcaa gttctggaag tgtgctagga ataagcagga gaagtataag 360
agagtaggaa aagaagaaag gaagtgaaca cgtaagacgt gaaaaaaaaa acaaaagggc 420
ggccg 425
```

<210> 759

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-D7

<400> 759

gtccagaaaa ctctggttgg ttcgtcatgg tgagagaacg caccacgtgg accaagaatg 60  
gaaacaaaca gcaaagaacc cttacgatcc tcctctcacg gaaagaggcg accagggggc 120  
gagagagttg gcatgagagg gagcagggga acgagtagag gttatcattt cctctccttt 180  
ccttcgatgt gttcaaacag cgagcgttat tgcattcaag tgcaagcttg acatcaagat 240  
tgaaccacgt gctacagagt ggctaaatga agagtggttt ggtcccacta ttcttgagtg 300  
gaagactttt tttttctgc acgcacagtt tccttccgta gatgttagct atcaaccaat 360  
ctccgtagca aaaacactca gaaacgcgtt gttctttgac ggaaagag 408

<210> 760

<211> 388

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-D9

<400> 760

ccacgcgtcc acccacgcgt ccgaacgcta catcaggga gaaacaaaca tcagctatgg 60  
agagtaaacy aggtcctctt cgttccaaag ctgccataa tgtaaaaaac gtagaacaaa 120  
agagggggcgt ccatacagaa gagagagata acggagtcgc aaaggcagag atggaaaagc 180  
tttctcaaga acatgaggaa gaaagaggca aatacggga agcagtataa gaagaaagag 240  
aaaggaaaaa actgagtatc aggaagaaaa gagggagtac atgaggaaag aaagatcaag 300  
gaagtaagag taagataatg atttttgtga atgaaagcac gaaagtattt gaacaagaga 360  
gtgtaaagcg cgtacctttt gcataatg 388

<210> 761

<211> 300

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-E10

<400> 761

cgcgtccagt tatagggtcc agctcatatt aacatactca aaaaaaaac ttctgttgct 60  
gaaacttttc ttggtatata tttgggctcc tcttgcacg gtttagccat tgcacaaggt 120

ggggagtacg gtaacttttc cgtattcatg ggggggaaga ctctccctt tgtctttttg 180  
 ggtaactcct catactttcc cagcgctaac gccaaaattg ccctaacgtt ccactgtttg 240  
 taaaacgttt tcatgaaaac cgtacctttt ttaacacaca aattcatagc tgcttaatat 300

<210> 762  
 <211> 52  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-E11  
 <400> 762

aaccacactt ccacgaaatc tattttcgta acctaaacac aatttcatat cg 52

<210> 763  
 <211> 309  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-015-Q1-E1-E6  
 <400> 763

ataaaaatgg taggtggagt agtagtgant catatgaaag aaggaatgga gattggaang 60  
 agggattaca tgaaggatgt tataggggga taggggataa ggtggatata tatatcgata 120  
 ataagtgtga tagtaatata aaggacccca aagagaggaa agaggtgtat gatacaagca 180  
 aagaggtgac gcactccatc acagagtaac acatgcaagt aggtaaagcg aacgggtgag 240  
 taaagatgtg tattttatTTT aacaacatga aagcacagaa taatgtatga catgggttata 300  
 gtaaaaacc 309

<210> 764  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-E7  
 <400> 764

gtccatgcgt ttcttgagct gggttggttt ggtgaggagc ctagttcgct tttcgaaaaa 60

tgagggtgaag aagggcgaggt tacaagttga gcagcagaat cttgaaagggc acatgggggca 120  
gttggattgg ggaagccgc gtgaagggcg tccagagatg acctgggaag atattgaagc 180  
acaagtagag aagggtttat atcttgttgt tatcgatgga ctggtatata acgtgaccga 240  
ttttcttccg agtcaccctg gtggtagaaa gatattggag ttctggaacg gtcgcgatgc 300  
tatccgtttc tttattggag aagtttatcg tcatagcaag gctgcaacga atttgatcgc 360  
acatatctgt tatgcaaagt tggttgagaa acttcaatac tgtattgggt tgtgggtaac 420  
cagggcattg ttgc 435

<210> 765  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-015-Q1-E1-E8  
<400> 765

gtacttggtg cggcttatgt gcacttgccg agatcattgc attgataatc aataaagtta 60  
ttccggtatt taatgacctt ctggttttag tagcttcatt gggcgcggtg acaatttact 120  
tactgtttgt cgggggactt gtggttattt gataattatg ggaagtggcg tatacatccc 180  
atcttgacag ttccacctt acttggtgtt ggacttgga aaactattct tgggtcttccc 240  
ccctatgctt cagtgaagag catcatagtt tacataaaaa ctggtcaagc atgtattttt 300  
tttttctgct cttacaacac ccaacctgga gcacaatttt tcgtcacaag tgttggtggga 360  
aaataaactt tgtctgcctt t 381

<210> 766  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-015-Q1-E1-E9  
<400> 766

ccacgcgtcc acggacgcgt gggcaattgg acgtttggaa aaggatacag aacggataga 60  
gtccgcactt gaaagagcta aactttcggc aatggaagaa aaggaagagt tcaatggtgc 120  
tccgacgaaa gcagtgccta cgcagaatag ctcaggggggt agtgctccgc ctccaccagg 180

acctcctcct ccaaccttgg caaaaacaaa ctccgattac gaaccctcgg aatcttcagc 240  
acattccgcg ttgtttgcag ccatcaactc agcacgaacc gacatcacca acaatttgaa 300  
aaaagtgacc aaggcatatt tttttttttg ttacacgtca caggaatcca aagactcact 360  
gccttccaaa accccagcca actca 385

<210> 767  
<211> 343  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-015-Q1-E1-F11  
<400> 767

aaggacgcgt gggctggcaa catgctggaa tgtatcaaat ggtaatttgc tactttttat 60  
ggagccgtaa ttggtaacga attggaaata tcaagagagg ttgtttcatt cgggggggagt 120  
gtagctctaa tatggacttg aaggagaga tgagttttcg tttttccgcc tggttctcga 180  
ctcctgttgg tacgacaact tgagtagctt tctctccttt tgtcaaagca atcttcttgt 240  
tcttcttgcg tccagtcttt tgttcgcaat tagcctgctt gatttgtttt ttaaaaagtt 300  
acattttttt ttatccgccc ccaactgttg tgttcccttg aac 343

<210> 768  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-015-Q1-E1-F12  
<400> 768

acgaacgcgt gggatagcgt gatatccatg gtcactaaca tagcaacttg tcattccgtg 60  
acgatagaat actaccccgga tatgttaaag gttatgattc ccttgttcaa aagtgggtaca 120  
tcagacttgg aggcttggtg tcgtgtgacc tacgagaaga acagcaacaa caactagtat 180  
gctttgtgat tcaacgacac aaaacacccat ggaaaccacc ggaagaaaag ggaacctctt 240  
gggatttgcc ttatgaccga tgtctactag gcgcacagga aattgcgatc gaattggatc 300  
cctatttttt attttgcntt gaggggtgcgt gttccccatc atgtgatgag gactactaac 360  
aatcgtacca ctgct 375

<210> 769  
 <211> 261  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-F3  
  
 <400> 769  
  
 acttttctaaa aaacaaacgg agcaattaat tcctagaata gggttatataa gaaagtacca 60  
 acatctactt gctgaatact ttaatctgtg ggcaataggt gttggtaaag atccatttcg 120  
 aggattacgt atttatccta catatttagt acagtttttg atactaatat taattttatat 180  
 taaatttcaa ttaatattag tgaatataat catatcatga tattaacacc ccgaaaatga 240  
 attatcaata aaactttaac a 261

<210> 770  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-F5  
  
 <400> 770  
  
 cgtccaagtc agactttgac aataaccagc aaaacttgga tccaactagt agcgtgttaa 60  
 atactggaaa tgaccatttt tctactagcg aggaaagcga gtcacctagg ttggacgtgg 120  
 gtcacttgga cagaattaag cgtttgagga gtgcacctgc gttgggtgtc tatgctcctg 180  
 gttatggaaa ctgcgcagaa tatttgtttg cggaagacta taccgactat cgtaaaaagt 240  
 cttgggggaga acagctcatg tattggacag gagtttctta tttgactggt gcagtgactg 300  
 gtggttcgtt ttttctccta taacgacttc gttcttcacg tggcaaaaagt tggaaactac 360  
 gagttaatgc cactttgaat gccaatgggc caacaggagc tgcattagct aa 412

<210> 771  
 <211> 251  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-015-Q1-E1-F6



<400> 771

gacagagggc atggcagggg tgtcacgtgc aaagcttcct ctggggacag gggtagggtt 60  
gacgaatttt taacggggcan agggttgtac cgctagtcct ttgagtgcg acaacttggt 120  
cgtttggggg gccacccctt ttggccccc tgatactgcc taaagaacga ggtaggtacc 180  
ccccccacc aacttttagt gaacagtatc ctgaaaaaac acccagggtc cgtcttactt 240  
gttttttttt c 251

<210> 772

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-F7

<400> 772

gtccagaagc aattttcaac ggccaacgta tggatgcaac acttcctacc atcaaataaa 60  
tattagaaaa aggagcaaaa agcatcgtag ttctttccca tttgggtcga ccacaggga 120  
aagtggacaa aaagtattcg ggaaaacggg taccggaata ttacaacag cggttgggtc 180  
gaccggtcgt ctttctggaa cactgtgtgg ggcctcaagt agagcaagct tgtaaagacc 240  
cggcgcctgg atctatcttt ctatgtgaaa acttacgttt ccatgtacaa gaagaaggaa 300  
aaggagtttt ttttattgga aacaagatca caggaacacc cgaacaaata gaaacattcc 360  
gagaaagtct taccaa 376

<210> 773

<211> 225

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-F8

<400> 773

aggaacacac agtaaagag gcgagaaagc atacgaagtg attgtggatt aggagcccg 60  
gtactctatt tattagggga aagggggact aacaaaaaag ggactcattc caccaccgga 120  
gtaaacgcgc aagaccccc cccaaagcac ttcacgcgaa tcaaaaaaac ggatcccatg 180  
caccctccc tacagaaagc cagcaccac cctaaacgaa aacac 225

<210> 774  
 <211> 97  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-G10  
  
 <400> 774  
  
 agtttcaaac tgtgttggtta taacaaagac attttgccctt gtatttgata cgacttttaa 60  
 gttttcaaaa attccttata caaggtcttc taccgac 97

<210> 775  
 <211> 236  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-G11  
  
 <400> 775  
  
 aaatatccct agctaggaac catgggttttc gttaagaggt gttaaaatat gtcggttctt 60  
 ttgttcctta tagaactttc caaggaagca gtgaagctac taaatctaaa aggcgtgtga 120  
 caaaccaact ttctggcctt tcggcgaggaa agcattccca aagtgcgtct gacgctcatg 180  
 aacacgttga catctgcaac tttgaagcac caaacggacc acaatggggc agtccc 236

<210> 776  
 <211> 267  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-G12  
  
 <400> 776  
  
 cgcgtccaga aagaggcaaa tacgggaaag cagtaacaga aaaaagagaa aggaacaaac 60  
 tgagtatcag gaacaaaaga gggagtacat gaggaacgaa agatcaagga agtaacagtg 120  
 ggagaggggac taatgtgaat gacagcagga ggggggggtga acaacacagt gtaaagcgcg 180  
 taccttttgc aaaatgtccc acccagtgac acaggaagca caaacaacc acaacaagta 240  
 gccacgtaag acccgaagcc acttgat 267

<210> 777

<211> 311  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-015-Q1-E1-G3  
  
 <400> 777  
  
 aaatgacaaa tacncttctc aacttttcta gacaggagca acccgttact ggagtttaac 60  
 aagggacaaac gactttctag tagtggtgct ttacaatttt ggaagccgga gtgcgggtca 120  
 aaccagtttt gttcttttagg cgctctgggg tcgaatgaac aagacatttc tagtacgaac 180  
 accgacatga gagtatgtat tgaaagagga tatttactgg agttgatggg tgagggattg 240  
 tctgtttgta tgccttgggt tatctcgga tatattcact acttgaggga gactctacag 300  
 tcttattttt t 311

<210> 778  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-015-Q1-E1-G7  
  
 <400> 778  
  
 gtccaaccac gcgtctggga gaagatatat gatcgcaatc cttttgttta ggaacaaaag 60  
 aatacctaga gacagacaca aaactattac ctacaggcag aattctgggg gccgagtcta 120  
 aatcgtatth ggacttttagg gaataagggc tcctaaaggg acctcctaaa gaatagtctg 180  
 gaataacaaa tggctatgat cacttttttg tgttcgataa gactggaccg aaatcgtcat 240  
 tacaatggat gactacagtt cctcatgcgg agtctaaaac aactttgaaa ctctatacct 300  
 attatttttt ttttataatt ttacacccgc acgtttcttc aagcctcaac tatgtttccc 360  
 tatcatcact tccaacggtt ctgttttaaa ccaacttgct ttatccaccc acttcacat 420  
 cc 422

<210> 779  
 <211> 328  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations

<223> Clone ID: LIB190-015-Q1-E1-G8

<400> 779

cgtgttgtcg actatgctgt tncggttcgc gttctgtggg ccgggtccgg tttntctctt 60  
ttttctgggg ccctgtcnct gccccggtt tgtgccctcg ctgtggccgc ggcgggtgcgt 120  
ttccccccct ccccggttgc ctcccgcggt gttgttgcta ctgtgggacc ttccccctct 180  
tctgcgcccc ttcgtgctgc gttagcaaaa agtgctgacc gaggcataca tttttttttt 240  
gaacaggagt tgccccatc cgtcgtttca agacctttaa aggggattgt actaaaggac 300  
aaaccaagtc tactaatatt aggaaaac 328

<210> 780

<211> 303

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-G9

<400> 780

aaaaaaaaa gcctacattg ttgccgttgc tcgaacaact ataggatcgt atggtggagc 60  
tctgaaagac tatacagcac cgcaacttgg aggaatagcc attcgaagag cagttgaagt 120  
atctaaaata gacaagagta agagggggga aatatatttc ggtaatgtgt tatccgctgg 180  
tgttggacag ggcctgcga aacaagcttg tatggcggca ggttttagcg atactattcc 240  
ttgtactaca gtaaacaagg tgtgctcttc aggtttaaag tcgacggtgt ttggtgttca 300  
atc 303

<210> 781

<211> 270

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-H10

<400> 781

cgcgccaac caagcgccg cccactcgtc cgggacaaca aataaaaatg ttggccttcg 60  
tgtatggaca aggccgttgt atactacaac aacatcaaca acactcttta caaacaagag 120  
gggtgttcct acgaaacaa aactattttg tggggaagaa taatgctact gggaaaaaca 180

caaaaacagt acttttcaaa agacgaaaac acgtattaac tgtacacacc actcatgtcg 240  
acagtctacg ttgcacaatg gaacacaaaa 270

<210> 782  
<211> 353  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-015-Q1-E1-H11  
  
<400> 782

aaccacacgt ccgcgccaat ttgtctagag agtgattata tgtgtgttgg ttggtttctc 60  
gtattttcgt gctaggaaaa agatgcaagt accgagatat caaggtccag caggggatgt 120  
attgaaacga gatacttcat aagggggggg ggaagaggct cgaatgtctt ctttcattgg 180  
ggctttatca ctctgtgact tggtgaaaac aactctgggt ccaaagggaa tggacaaaat 240  
acttcagtct gcaagcgggtg atatcattgt gactaatgac ggagcaacca ttttgaaatc 300  
agtgaatatt gtttatgctg ctgcaaagat tctagtacat atatcaaaga ccc 353

<210> 783  
<211> 100  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-015-Q1-E1-H3  
  
<400> 783

acgcgaccgc ccacttgtcc gccacgcga taaacgggaa ccccggttcc taccgttatg 60  
ctcttacctt cgcgactcgt ccattctttt gtgtttgttt 100

<210> 784  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-015-Q1-E1-H4  
  
<400> 784

tgcaaaagtt gtggtcgttg ttatgtagaa atgttgacta cccatacaac aagaaaaata 60  
ttcaaacatt ttacagtgcg gcatataatg cttctcctta tagagagctt tttggagaaa 120

gaaaggaacc ttttggggga gatcggaatg aacgcataca aaatatatgg gaaaaccttc 180  
 ctcttgcaac aatggaaagt tacttgaaca cgtcttggtc ttgtaagaaa agtgaacaaa 240  
 cccaaaacaa gttagatctg gcaacagaga atatattgga tgaagaagga aatcctctcg 300  
 tgtttcatat gtacgtgacc gtttacaacc aacttaccga cataacttaca gacaacggtg 360  
 tatactgtgt tgaaaccccc g 381

<210> 785  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-H5  
 <400> 785

cgtccacaaa attcttcata atgtttgcaa atggaaggaa gctcgtttta atttagaaaa 60  
 aaactgacaa cttctcccca gccgtcagtt tacggcttgt acagcgaggg gaatagggtg 120  
 gtctttcgta caatcgctca gttttaaggc atgtttgagg tctgctctta tatgtgcctt 180  
 tcgatgtgca cttttcactc ttgctctggt tgaccagcgt attgatatca atccaggagg 240  
 caatacgcaa gcgttttgctc attgttttga aagttgtcat taagtaccga atcgtgataa 300  
 tgattccatt ttgtatgcgt acattcaaac ccttgttatt ttacagagg attaca 356

<210> 786  
 <211> 140  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-H6  
 <400> 786

caacacagtg tcaagcgcgt accttctgca gaacgcccc cccactcaaa caggaacccc 60  
 acccaaacaa acccacgtag ccccccccc ccccaacctt cttgatccca cgctgtccaa 120  
 cccaactacg gccgaccac 140

<210> 787  
 <211> 163  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-H8

<400> 787

gtccacacaa tctttgagac ctacgcgaat cactcgacac ccaagtcgat cgacaaaaac 60  
tctcattgga gcacttccat ataataggaa gatactctgc agacttcagt tcagggtgca 120  
acacacagaa tttctcaggg gttcggggac gtccaagaaa ccg 163

<210> 788

<211> 441

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-A11

<400> 788

acccacgcat ccaccacgc gtccgtcacg aatgtaaacc aagaaaaagt tgtttgaaaa 60  
gaacaaggac atataggtat tttgtggaaa agtccgtcgg gggagttgac agaaatattc 120  
gtggggaaga gaaaccaaac aaagaagacc aggaggtgca accccttgaa cctttatttc 180  
agtatgagct cgaaaaggaa ggcgcttgca ctggaaatct catggtgttt agcaatgaca 240  
acttgtcttt ttgttgtttt gacccaaaag aagactcgga atgttggtgac aaggattgtt 300  
tggactccaa gaccattatt atccctatgg gctgctctct gtcaggcgag gtattcttgc 360  
cgtttcggtc cacatttggt tcctatagat gtccgccttc acaagtacct tgtctcactt 420  
gtgctcgaaa cgcgccgcta t 441

<210> 789

<211> 229

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-A2

<400> 789

aggcctccaa ccacgcgtac gccattcgt ccgaggaaca aaactgacgt aaacgctgtg 60  
gaagccttac attgggctaa catgtgcttg tactccttca atatcttctt ggcctttttg 120  
ggataagggg ttcgtggaac ctgtggctgg ggtcctaggg ttgcacacta tcgcatgttg 180  
acctctgtgc acaaagatcc aactttgtcc aaaggatcgg aaatgcac 229

<210> 790  
 <211> 282  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-A4  
  
 <400> 790  
  
 aggcctccac ccacgcgtac gcggccgcgt ggggaaagag gaaaatacgg aaaagcagta 60  
 aaagaagaaa gagaaaggaa aaaactgagt atcaggaaga aaagagtgag tacaggactg 120  
 ggggaaagggt gaacggcgga agagtaagag agggagtaag gggaatgaaa gcaggaaact 180  
 atttgaagaa gagagtgtaa agcgcgtacc ttttgcataa tgtcccagcg agtgaaagag 240  
 gaagcaaaaa gaaggaaaaa gaagtagcca cgtaagaccc ga 282

<210> 791  
 <211> 306  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-A6  
  
 <400> 791  
  
 gggccgacaa acgcgtccaa tcttttctgg ggttctgctc taagtccaac accttgggtg 60  
 gttgcttcag aaatttatcc aacctattta cgtagtcacg gaatgttgct atctcatgtt 120  
 agaaacttga cagggagggtt tattactaca tgggcattcg gacatatgac caatgcaatg 180  
 acgaatacag gtacctttgt tggtttctat ggaggtctta ctattctcgg ttggatgtat 240  
 ctcatgttct ttatgccaga caccaaagac aagactctgg aagaagtggg tgaaggattt 300  
 gaaagg 306

<210> 792  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-A7  
  
 <400> 792  
  
 cgcgtccaca ttgttgaata agatgagaac gaagcaagac tttgagcgt tgcgtcatgt 60



cgagattatg gaagattgtt ggagaatcat gtttggatat tcgggaacga gagaaagggg 120  
 actgcttggg agacgtgcaa gggaggagag gttgtacggg attgtgcatt ttggagaagc 180  
 ggaattgggtg atgcaagtgg aaagatgttg gggaattgtt tcagcgatag atgtgtgttg 240  
 gaagaaatat ccgaacgaat gttatcgttg gatgagtatg tatgtggggg tgatggagat 300  
 atgggtggctg acgatggaag cgtgngcggg gggggggggg ggggagggcg tgatttgtgg 360  
 aagtcgttta cgagtccatg ggaacgcaac gagattgatt ttgacgccgg aaaacatatt 420  
 ttgtggcgat gttt 434

<210> 793  
 <211> 117  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-A9  
 <400> 793

accactaat ccaccgacgc atccgccgtc tactcttcca aatcaacaaa ccattcccaa 60  
 ctctcaaaat ccactacact accattatca ctgaaacacc ccatcactct tcaccac 117

<210> 794  
 <211> 289  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-B1  
 <400> 794

ggaatcattc caccagggga gtanngacgc angaaagaaa cccaaagcaa ttgacgggaa 60  
 tcggaaaaag ggggtggatca cgtaaattaa tccgatgtgg accgggaacc tgagctctcc 120  
 aggaagggtg tgcacggctg tcgggagaac gtgctgtgaa gtgagagAAC gtacgagaaa 180  
 gccaaagtga gaaaagaagg caagtacagg gcggcccgag aaaggagagg gcgtaagacg 240  
 tgatacagag tacgaagaaa agacaacaga gctacgaang gggtaaaag 289

<210> 795  
 <211> 356  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-B12

<400> 795

```

cccacgcaac caccacgcg tccgccacg catccgtgtt gataataaaa ggcgtaactt   60
tgtgggtttc cttacaaaat gtcttttata tttcgtggaa tcaaaggcct ttccaatccg   120
ggggatggac aaccctggga ttaccacc ggggggaatg tataccttga accagatgtc   180
gtacattgtc cattttgctt tttctgttgt actcattgct atgttctccc aagttacctt   240
ttatctatac cgtgacttta agtgtgcttt cgatgggcat tgggattact ccacgcatac   300
caaactctct gctttttttt tttattctct tacctcattg ctttggagat catttc     356

```

<210> 796

<211> 99

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-B2

<400> 796

```

acggcgaaag cacttttgtt ctgaaatggc cttgtcgtga ccaatcgata caggtacaac   60
tctgagcgtt ttccaatgcc gtttgttttc catcctctg                             99

```

<210> 797

<211> 242

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-B3

<400> 797

```

cacaaagaag gatcgtgaag gaaggaaaaa tcccaaataa tcgaggaaga gaaaacttcg   60
gtgaaagcgt gaacggattt tgtacacact gcccgtcagc ttcggggact gtgggacgag   120
ggggcaggag aactagggga cagggggccg ggtggagtag cgaaccagga gaagggaagt   180
caaaggtagg aaagaggaaa ggtttacgag agaaggaagt agacagaaga gactgtaagg   240
cg                                                                                   242

```

<210> 798

<211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-B5  
  
 <400> 798  
  
 cgtccattgg aatattatatt acatatacctt tgcaattaat acccattggt caggcagcag 60  
 aagactgggt agcaggaaga acgataacga gttctcatgg tgaaccgagg gaaggggttc 120  
 aaggggaatg agaagaagag gaagaggggt tttctacgga tgatcaaagt tccgagtcgg 180  
 aactttatga ctcagcagtg gaagaagcag caccaaaaaga attggatatt ggagaaaact 240  
 actatcaaag agacgattta taagaaggct cagagtatga ccaggaaact tc 292

<210> 799  
 <211> 205  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-B6  
  
 <400> 799  
  
 cgcgtccacc cgcgcgtccg cccactcgtc cgcccacgcg acagatttag atgaaggaga 60  
 tacggaaagt gattctatag agagaataga gcatttcgtg attcgttcga ggaaaatggg 120  
 gttgacggtc ggcttccatc aggatttggg agctggaatc ggaccttggt gtggaaaatt 180  
 ttttcaaact ttggaatggt ttgaa 205

<210> 800  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-B7  
  
 <400> 800  
  
 cgcgtccaca agagacaagt gccactgtgg ataacaaagc agacacagga aatgtgtccc 60  
 atgagctcca agttcttcga aaacaacaac aagatgctga ttgtgggtag cgggcgttgg 120  
 ggtttcggga ttcgcatggg caggagtatg ggacgcaagg agcaactaag tccaaccttg 180  
 acgggttttt gccgtgtgat atcgtcccta atggcttggg atcaggtttg gccgagaaaa 240

gctaacgttt aactggaaaa cggtcctgac tatt

274

<210> 801

<211> 187

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-B8

<400> 801

cgcggtcaaag caggacatgc ctttatgaat cctcccgata aaagggtttac ggatgaaatg 60

agatcgaaaag tggaaatggt gcgtccttat gatgaagaga gtacgcaatt ggcgttgggt 120

ggaatggtag catttttccg taaaaacggg gcgtcttaaa taaagtgtgt ttgggttttt 180

gtgaaaa 187

<210> 802

<211> 436

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-B9

<400> 802

cccacgcaac caccacgcg tccgcatttt ttcttccaga caaaagcaac aacaacacag 60

tggagggaca aatattcgta gaatggaaca aatattgttg gagagtcaaa acaaagtgcg 120

tgggcaggty aaaaaggag ccttgtctat ggggggggtg aaccacgttt ccttttctgt 180

acccgaacca gtgaagacgg gcaagttctt ttgagagatt cttggctttc gagtggttcg 240

acgacccaac ttcaattttg acggtatatg gttgtacagt tatggtattc aaatacacct 300

tatcgaaggt gctgtttttt tttcaccaa tatcttgaaa ccaaacacag accatatatc 360

gttcgaagcg gatgacctca caagtataca gaacaaattg gaccctttaa atattccgta 420

tcttttggag tatcac 436

<210> 803

<211> 300

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-C1

<400> 803

ggcctcaaac cacgcgtacg cggactcgtg ggttttgcaa aaacatgaac aaaatttctc 60  
tagtttcctt tctattatctt ggagttgtca tatatgcagt tgacagacct ctcaagagggc 120  
tcaggagctt cgggggtgaga ggatagggca ctccgggtata ctccaaccta cactagcgag 180  
tatactccaa gctatagtag tgaatacact cctagctata gcagctccta tagtccagtt 240  
tattcttctc cttatcaatc ctcatcact cctacctata gaactgattg gtggattcaa 300

<210> 804

<211> 237

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-C12

<400> 804

atatttttagt tatccgaaca gcatttctac aaagcttcta tgaactatcg atggaacagt 60  
tttatgatgg ctttaatgag ccaagaatta actattcccc ccagggttgta aaatggcttt 120  
atcaaattga aaatccgggt gctttccacg gatacaatgg cgaatcacat gaccgtcaat 180  
ccaaattccc aattatcttt ccctttccat tttgccttgt taaaaaactt ggaattt 237

<210> 805

<211> 268

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-016-Q1-E1-C3

<400> 805

acgcgaccgg gaaatgcana aggttgtaaa tatctttatg tcgatcagca aggccgggtgt 60  
actggaagca taagccgaca agatgttgca gattgttgtt tcaccggggt cttgggggaaa 120  
aatggcagga gaacagcgtg tcaaggggtt gaaaatccta gtggagcttc ccaatcgata 180  
gattatattg gtttgttttc ctggttggtt gtcgataaag tctcgctctg agtataaaaa 240  
aaaaaaaaaa acagggcggc ggcccttt 268

<210> 806

<211> 262

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-C4  
 <400> 806  
 acgcgagggg aaattattat tggaagataa cagtttcact ctcttactga caaacggtag 60  
 caatatgttg tttctttgtg tcaagtttat atagactaaa tgcaagggtc aacggggatt 120  
 ttaggccgtg aaaaacgggg tgaagggtt tggagccttc agtgaagagt cctgtagtgg 180  
 actgaggaaa agttaccact gtttaccaga ggttttgtga atcaatatct ctgcgagtct 240  
 acacactttt tcagacaaac ta 262

<210> 807  
 <211> 260  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-C5  
 <400> 807  
 cgtccaaaaa cttgctgtgt tgggaggagg atgatgaaaa aaggcggttg gtggttggtt 60  
 cgtgccgtaa caactgcaac cacaaaaaca aatacgtgga aaagacgggc gacggggggtt 120  
 tatgggagtg agtatgagag gagaaaggca aattggaata cttttttgcg atcctattgt 180  
 acttcttggg aacccaaacc ttataagcc tttccgttag gttctggcat accctttact 240  
 aaaaacgtgt acatggatcc 260

<210> 808  
 <211> 273  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-C8  
 <400> 808  
 cgcgtccacc cagcgtccg cccacgcgtc caccacgca tccgagagaa ctgcgatctc 60  
 aggaatgtca ttaaccaata tgcagtagaa ctatcaactg ttcgtgacag ggtgaagggt 120  
 cgtgaggctt gtgctgatat agggaaagtg ggaggaatgc tcagtaaaga ccgattatcc 180  
 atgtccactg cacagaaagg aatgctgca gtcgacgcgt catattgttg tgaacgtccc 240

caggagacaa acggatggag agagttcaac tca

273

<210> 809

<211> 288

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-C9

<400> 809

accacgcaa tcaagatgta tgatgcacgc aaagaattga cgcattaaat cacagagtaa 60

cacatgcact tacgtaaacc caacggttga ttaaaaaggt ttaaaaaact ggaaaaacat 120

gggggcgaca cacaaattca acaattgggt aaaggggggg ccataaagga attaaaaccg 180

gaaacctcaa aggaggaaac ccacattgca actcaaaaaa ggtccaacca ccacaattca 240

ccattggcaa aaattgcaca attttcagcg aatctatacc cactactc 288

<210> 810

<211> 360

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-D10

<400> 810

cccacgcgac caaaaagaaga ggttccaaga accaacaagt cacgaatagc caaagttatg 60

tatgaaaaac tatcaacaag ctgcaaaaac cgtggattag gaaaacactc tatgatatac 120

aggggggagc atggacagac ttgctgaaag ggaggggggaa aagatggcaa aaatttctta 180

agaaaaaaca ccaaaccgaa caccgacaca cgaaactatt gttactcatt caaaaaaccg 240

tattagacaa aaagagccta atccctttat aaacaaaatc caaaaaacca tttgccaaaa 300

caaccaatta gaattctttt atgtttttga aacgacaaac caatagattc tacctgcctt 360

<210> 811

<211> 249

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-D11

<400> 811

cccacgcgac caaaaaccgg aagccaaaca agttgtttcg tattaataag aacagcacia 60  
aatggagtgt tggtagtaa cgggtgataa acatagcact gcattttcac ttacccatag 120  
ggggggggaa ttccaatgga aaaggtgttt tcgggggcat tccctgggaa taaatttaaa 180  
tttttaaaaa ttttattcca aaattatcaa attccaccag gaaaggccaa ttctcgagtc 240  
ctatttggt 249

<210> 812  
<211> 244  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-D3  
<400> 812

cctccaacca cgcgtacgcc cactcgtccg tgaagacaaa gtacagtgt gacgagcagt 60  
catattctcc aaatgcttgg aaggacttgt atgacaaata tttgtcggaa gatcgggtat 120  
ttttaccaa cccgatgt tctgtggga ctaggtctt tgttcaagtt tccgtgccta 180  
tacatgatga ttcttcgggt tccatcaag gctgttctt tttgaccgaa atgttgatgt 240  
atac 244

<210> 813  
<211> 93  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-D5  
<400> 813

cgcgtctata gtttcgtggg tcccgacagt gacagtccga atagcttttc agctagcaag 60  
atactgactt ctgtgctttg ttcctacttt act 93

<210> 814  
<211> 274  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-D6  
<400> 814



gacaaacgcg tcaagttttc ttcgatggga ggacatggaa ggaaagacaa gtatcctaag 60  
 caagtgtggc acccctttgg aggcaagttt cctcatccga ggggttggaa gaagcaggcg 120  
 aagggatgta cccgtagtgt ggcaactcgg gtgaggccta ttatttacta tgccgagaag 180  
 catactgtct attaccagta tccttatcat aagattcctt ggaggcccaa tttgaaaact 240  
 tttgatgaaa atttggagga acgaataaag gccca 274

<210> 815  
 <211> 291  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-D7

<400> 815  
 cgtccacact tatgacgata tcaaggcaac gatgaaagct gcgtcagaaa gcagagcttt 60  
 aaaggggaata ttggcatata ccgaagatat ggtactttct atggagtggg ttcaggggag 120  
 tcatggttcg agatttgagg ggaatggggg aattatgttg tcggaaactt ttgtgaagct 180  
 gattgcttgg tatgataatg agtggggcta ctccaatcgt gttgtagatt tgggtgcacca 240  
 tatggcgaaa gttgatgggc gancttaacc cggcgtgtct ggttgttttt t 291

<210> 816  
 <211> 262  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-D8

<400> 816  
 cgtcaagttg atacctaaaa agaaccgaaa cgcagttaat actttttattt tatcgactgg 60  
 agtaattgtg gtgaacaagg aactcatgc caaatgacac ttgcaggggt gacatggctg 120  
 atcttggagt taggaagagg ggtgaggggg ttacttcgcg gggatatttc gaggaacagt 180  
 tcagttgggg gtacctttat tatactctga ctgacaacgg aatcgattac ttacgtcaat 240  
 atttgaatct tcctgtggaa at 262

<210> 817

<211> 312  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-D9  
  
 <400> 817  
  
 acccacgcga tccacccaact acgtccgccc acgtgtgccg tgtacaagta ataatcgggt 60  
 aatagagagc acaaatggcg tgtagcgtgg aattccctac atcgcaactc acgatgggtca 120  
 caccattcgg gggcccgacc ccttgatcaa acaaaatgag ggggggattg tggatttgga 180  
 aacgggaaaa ctgaccgatt ttctcaaatt tgaaattggc aatttgtgta tgattaccgg 240  
 tggacacaac attggaagag ttgggttgat ccagcataca gacaaacacc ctgggtccac 300  
 ggaaattatc ca 312

<210> 818  
 <211> 266  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-E1  
  
 <400> 818  
  
 aagtttaaaa gttgatccta cgcattttat agctgttaaa atagccagcg gactatcaag 60  
 aactgcagtg gtccttttgg agcgtttgaa gattgtgatg ctgatgcggc gagttgctgg 120  
 tttcgaaagc gaanattcgg gtattcgggg tttttcccag tctttttcaa aaatgcttgt 180  
 acgagaccgt atgcaaggta tgttccgtgg aaacggtgtc aatggtgcaa gaattgttcc 240  
 tgttactttc attcaacttg cgtctt 266

<210> 819  
 <211> 115  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-E10  
  
 <400> 819  
  
 ccacgcgacc gacgtaatag tgaacgttcc ttgttgcttt ctcaaaattc tttccaccat 60  
 gaaatgtcac acctgcgata agtttatgta cccgcggtcg gttgtgtgta cattt 115

<210> 820  
 <211> 284  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-E11  
  
 <400> 820  
  
 acccacgcga ccagaagtta gtaggtactc attattctgt taaaaaaact ggacttactg 60  
 ctacaattgg tatcactaca agctggatat catattttcc acaatcattc atcatgaaaa 120  
 tgggggttct acaacattcc cactcgttat aattggggga cttctcagtg tccgactgtc 180  
 tcttttaaca acaagacctc ccagtttgcc agctatactt cttactgtat atctactctt 240  
 catctataac tatatattac aactttttat catcttcccc aacc 284

<210> 821  
 <211> 331  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-E12  
  
 <400> 821  
  
 cccacgcaac caagcttttt tggtttttgt gtttggtgaa attcagtatt gcatatctat 60  
 atacaacaaa tatgcgtgag attgtacacg tacaagctgg tcagtgtgga aaccaaattg 120  
 ggaggaagtt ctgggaagta atttgtgaca aggggggttct ctctccagat ggatattatg 180  
 tacgagacac aaactctcaa ctagacagaa taaatgtcta ttattctgaa gcttccgata 240  
 agcgctatgt acctcgtgca attctcgtgg actttgaacc tgtaacaatg gatgccatca 300  
 aaagtggtaa aacttttttt tttttttcgt c 331

<210> 822  
 <211> 100  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-E3  
  
 <400> 822

cctccaaaaa tgtcncagga atattagctc acctacttca aaattcgtgg tttaggcgaa 60  
cctgttcgtc tactatttga agacaatggc atcaaatact 100

<210> 823  
<211> 226  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-016-Q1-E1-E4  
<400> 823

tattaaanga tggtcgcaag tctttggtac aaaataacgg caagcttggt acagttatat 60  
ggggacctgt agcacaatgt gatgtatttt ctagtcctcg caagggtgctt ggggactctc 120  
atcgtgacga tcatcgggat gatcggcatc acgaggagag ccattctgca tcaacgcatg 180  
aacaggagaa gcaacattcc gtgcattgtc attgtgggtc tcctca 226

<210> 824  
<211> 258  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-E5  
<400> 824

cgtcaacgcc ccttctggat ggacggcgtg gaagtagaca tgggaagttt gtcttggtgca 60  
gatgtaagac ctgtattacg agaggagaca gaacgagact tcgatgagcg tattcgacgt 120  
gcaggacagt ttctagtgca gggtcgcggt acattaccag aacacaattc tgaaaggaag 180  
agtcttaggg agttgcctac agcaactaca gtagttccac gcgccaaacc tattcccaag 240  
gagaaaccgt tgacgaaa 258

<210> 825  
<211> 207  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-E6  
<400> 825

cgtcaatagc tccaaggtag acgacagggt tgctcagatc tgttccccag ggagaagcca 60

agtatattatc acagagaata gggtattact tgtttggttt acaggtgggg ccagagggtta 120  
 tccctgcgat gagtatgcgg ataatggac ttggtgggta cctcaaaacg gaaaggcaaa 180  
 aacggaaaaa atcccacggt aaacggt 207

<210> 826  
 <211> 267  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-E7

<400> 826

cgcgctccacg gacgcgtggg caggactcct aagtgagtaa cctctagttg atagagtatg 60  
 gaagataagg gaattcggca aattggatcc gtaactgtgg gacaagtgtt ggctctgggg 120  
 gttgcgggga agtctgcgtg cggaacagg tgtcttttct ggctgttggt gtgtctagga 180  
 atggtttttc gactattctt gggatgaaac gatggccaga gacactcgtc gcacgcacga 240  
 agattcatct cttttttggg ggatgga 267

<210> 827  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-E9

<400> 827

cccacgcgac caccacgcg tccgagcaat cgtagagcag aaaaaatggg tgtaaaggtc 60  
 gagtactaga gtaagtgtaa aagggaagg aaaggagaga aagaggaaag ggatgaaatg 120  
 cggggatctc tacagaaagg caagaaataa agggggggaa gacacagtaa atgaggcgag 180  
 aaagcatatg aagtgaaacg gattaggaac ccgtgtagtc tatgcagtaa aagaacaat 240  
 gagtaacaaa aaagggagtc attccaccag gggagtaaag gccaagaaa gaaacccaaa 300  
 gcaattgacg ggaatcttta ataattgtg gatcacctaa attaatccga taaacccaaa 360  
 accttacctc t 371

<210> 828  
 <211> 300

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-F1  
 <400> 828  
 ctccagccaa agtaatggta gagcttgac aacaacaaga cgaagaactt ggtgatggta 60  
 caacatcggg ggtattatta gcagctgagc ttttgaaacg atcggatgat ttcgtgggac 120  
 gaggcaccca tgcgcgccaa cggtattgca ggatagcggt tagctatgcg agagtcttgt 180  
 aaatatcttc gagatacttt gtccgtatca gtagaaaact tgggaagggtc ttgcttgata 240  
 aacactgcaa agactgccat ttcctccaaa gtaattgggt catggattcc gttttttgcc 300

<210> 829  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-F10  
 <400> 829  
 attcgccgcg cccacccacg caaccataaa aaaggcaaac attcgattcc ttggcaaaaa 60  
 aaagcgagac agagacagag tggagcggtt tcagaaatga ttgacttggt tgttattttc 120  
 aatacacgag ggttggggcg tcctttatga tcacctcaat catacagggt ttactcccgt 180  
 cgacccttta ataacgtcaa ttcctcctgt ggacacagaa tgattcgtca gctcccctat 240  
 caaactatac actaaaatgg acactttcca aaccacaacg ttttattttt tccgctcgtg 300  
 tttccctaaa aactacccat c 321

<210> 830  
 <211> 103  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-F3  
 <400> 830  
 aggcctccaa ggacgcgtag gtgcggtact tgtgtgtgtg tatatattga tgtatgacag 60  
 ccatgtgggt attgcgcctt gcgaaaaaca accattccgt acg 103

<210> 831  
 <211> 80  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-F9

<400> 831

acccacgcaa ccatatactt catottcttc ctatgcgact ccaacataat ctactaccta 60  
 ttcacccatc tccaatgcta 80

<210> 832  
 <211> 278  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-G1

<400> 832

aggcctccag aagatttagt tggttactat tagtggaat cctggaacaa gcaagactct 60  
 gttggcatta gctgctgctg tggagcagca tcgagactat agtcagatct acctttctgg 120  
 ccctagggta ctgcgggagc aatcgcgata gtggatatgg tccacnaagc gttgattcga 180  
 gaattgagcc ctacatgcaa gcattgttcg acaacctggg tgtgatcaag tccttcaata 240  
 gcaacaagga ggattgtaaa gcgtcttctg gagcgtct 278

<210> 833  
 <211> 185  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-G3

<400> 833

ggtttagtcg cttcggtcct tcttttgtaa tactcgtata ttgcacgaca aaaagtcctt 60  
 aagatggaaa gagctttgaa aagcagtgca cgtgttgctg cgatacggcc aaaggggtgct 120  
 gaggcttcaa gagggctctga aacttgggag ttgcatgtag tcggtgccac atgggatggt 180  
 ggttg 185

<210> 834

<211> 269  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-G4  
  
 <400> 834  
  
 agaagaatcc ttaatagtga aatgtataac taagctattg aaaactgggt tctcttccgt 60  
 caacgtttca atgctattgc gggatattca tgtatagtta actggagggt gtgtgggaaa 120  
 agggcggagg gagtatgtgg aacgcgccga cccgggaatg gaaattgtga gagttttact 180  
 tggcgatttc gtgaaaattc atggcgccaa aatatggcaa ttcaccagtc ctattccact 240  
 ggaaacgaag cctcagttga gttttttga 269

<210> 835  
 <211> 294  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-G5  
  
 <400> 835  
  
 cgtccactta tattctttgt gcttggccaa tggttgcaaa aactgctctg agttgcctct 60  
 ttctctcttt ccttatcgct gccgcagttg cagcggacgt agtttcaggg gagagggggg 120  
 caggggctca gcaaaccggg caacaggggc agtgccaaca agtatgtaga cagtatgcat 180  
 actatcagag tccagtctgc acttccgtaa ccacacagag ccatactgg acccaatgct 240  
 cgaagactgt gcaaaccttt ggcccaagcc agtgcactgc ttggacccaa tctc 294

<210> 836  
 <211> 276  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-G6  
  
 <400> 836  
  
 cgcgctccggc gagaaggtgg atagtcgaga gggaaaaaga ccagaagcca agataaggta 60  
 tcaaagtaaa gaaagaagga aaaggagaag aagagaggag acgcttaggg gcagcagggg 120  
 agagaggaag gcttgaaagc aggaaagagg ggaaatccga aaaagaagag aaaaaggtaa 180



gaaagaggac cgaatcaggg taagaggtag aggagcaaga agagaagaga gaatgctggg 240  
 tggagtagcg aaacaagaga agggaagtaa aaggta 276

<210> 837  
 <211> 248  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-G7  
 <400> 837

cgcgtccatc tggagcacgt tcataggagt gaatataacg ttcttcccga tgcattattt 60  
 gggattagga ggaatgccac gtaggatagg agaatacgcg gattgatatg ggggatggga 120  
 tatggggcca attatggatg gagatagggg tggtatcgaa gttaaaacgg gtgttggttg 180  
 gaattaaaag tttggaaaaa ggttaaggaa attgatttaa ggtggaaagg aaggattata 240  
 cattgggg 248

<210> 838  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-G8  
 <400> 838

cgcgtcaacc cagcgtccg agcaaaaaga aagaaaaaga agtagccagg taagacccga 60  
 agctagttga tcttatgctg tccaagcgaa gtaaggctag tccagtatgg gtggaaaggg 120  
 atttggaagg gattggatag ggggtcaagg gccaatcaaa gctagtata gctggtactc 180  
 ctcgaaagct atataagtag cgtatgcagg aaagaagaag gtaaaggaag agaaggaaga 240  
 agcagagagg gactatgagc gagaaggtgg atag 274

<210> 839  
 <211> 293  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-H1  
 <400> 839

ccatttaaga cgagcctgga tcacatttgg aagaaaatat tatgaaagaa gccaaagaaa 60  
gaaatgtaaa gatacatttt ccagtcgatt ttgttgtaac cggtcgtggg gctcccgatg 120  
cagaggcaga gatacgtagg agagaagggg gtattcctga gcatatgcaa ggactggatt 180  
gtggaccaca aagtattcaa caattttattc aagtactgca acattgtaat acaataatgt 240  
ggaatggacc tttgggtgtg tttgaaatgg atatagaggc aggaggcact cgt 293

<210> 840  
<211> 275  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-H10  
<400> 840

cccacgcagt caagttgttg aggagttatc gatcgaatac aatgaaaaac gatttggaca 60  
gttttttatt tcgttttgtt ctcgaatact tacaacgaaa aggttataaa cgagctgcag 120  
aggccttgaa aactgaatct aaagctgaag ttggggagca ctttcaaaac cctccacaat 180  
attatacaca accactttca aaatttcccg aaaaaatcct aaaatttcaa acacaaacac 240  
aatcctttcc aggacactac tcaaatttca acccc 275

<210> 841  
<211> 276  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-016-Q1-E1-H12  
<400> 841

gcataattac gcatgtccga atagaaatta ccacacaaag atttgaaacg cgcctttgag 60  
ttggatcctt ccaatgtagc attgaacaaa aacatccgcg aggggtcccca acttaacgcc 120  
gaacaacatg caggggagtc cacgttattt ggaaatatct ttgcaccttt aagacacact 180  
taagaccata ttcacaacac atcaaaccac taaaccaacg ccaaacaaat cactgcctct 240  
taatgacctc aacttttttt atttgcagtt accata 276

<210> 842  
<211> 271

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-H3  
  
 <400> 842  
  
 acgcctccag agagaancac atgtagaaat tccaaacgtt aattgggaag atattggtgg 60  
 cttacaagag gtcaagggtg aactgcaaga aaccgtacaa taccctgtan agcagtccag 120  
 ggaactttga aaacgtgggt atgcagcctt gaggacgtgt cttgttctac ggacctccag 180  
 gatgtggaaa gactttactt gccaaagcaa ttgcgaacga atgtcaagcc aatttcattt 240  
 ctatcaaagg acctgaactg ttgacctgt g 271

<210> 843  
 <211> 278  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-H5  
  
 <400> 843  
  
 gacaaacgcy tccaggagca attaccaacg gccaacgtgt ggatgcaact cttcctacca 60  
 tcaaatatat attagaaaaa ggagcaaaaa gcacgtact tctgtcccat tgtgggtgga 120  
 ccagagggaa tgggtggaca aaagtattcg ttaaaagggg tagcggaata ttacaacag 180  
 cggttgggtc gaccggtcgt ctttctggaa gactgtgtgg ggcctcaagt agagcaagct 240  
 tgtaaagacc cggcgctggt atctatcttt ctgatgta 278

<210> 844  
 <211> 271  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-016-Q1-E1-H6  
  
 <400> 844  
  
 cgtcaaaacg agataagggg ggcacagtc tcacttcagc cgtacagaac acaaacttgg 60  
 atattgaaac ggtaaagca atttgtgctg aatatcgagt tcacaaggca gtacgggtgt 120  
 ttcttttagag tgttccaggg tttgtggggc cttgaaagga tatttccttg agagaggacg 180

caacagctga tgacctaatc gatgttatac aaggcaatcg aaagtatata cctgctatatt 240  
acgttattaa caaggtggat tgcatttctg a 271

<210> 845  
<211> 293  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-016-Q1-E1-H7  
  
<400> 845

cgtccaggaa gtatttggtg tagttggcat tgatggtatt tatgggtccga cagaagcagt 60  
tattattgcg gattcgagtg cacgtgctga ttacgtanca ncggtattggg tagcggaagc 120  
tgaggatgat gaaatggggg ttcctaggct ttgacctgc agtagagagt tggcagaaag 180  
agtttccagg ttacttgtgc aacaattgtc cagtttatct cgcagctcta ctgctttaca 240  
ttccttacia catcatggcg gcattgtggt gagaagcgcc tgggangaat gtt 293

<210> 846  
<211> 298  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-016-Q1-E1-H8  
  
<400> 846

cgtccggtgc tccgcctcca ccaggaccac ctctccaac cttggcaaag acaagctcgg 60  
atcacgagcc ctcggaatct tcagcacatt ccgcgttggg ggcagccagc aactcaggag 120  
gaacggaggt gacgaagaag ttgacggggg tgacaaaggc agaaaaaggg caaggtgaca 180  
cgtcacagga atcgaaagac tcaactgcctt cgaaagcccc agccaagtca aaagccgttt 240  
ccaaagcttc gcagccgtcg ggcgaaccaa aatgttagtt atgggactgg aagacttg 298

<210> 847  
<211> 377  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-016-Q1-E1-H9

<400> 847

attcggcggc cgaccacgc gaccaaaggg attattgaca tgcaaaagga ccaaagcaac 60  
acttgtagcg acggtacccc acttagttgt gcggatagaa caacgttgga aggtattttt 120  
ccaagagttt gttgcgggga cccaaagcaa agttccaggc gtatgtgggg gcgcccttta 180  
ttctttcgtc actttcgtcn tgtgaacgat agccacaaca ccatgtcaac gctagaacac 240  
ttacaggaaa cgcagccttg tttgaatgaa aaactgctag aacaattttg aacaagacgg 300  
ccttgaaca tccgatagac aacgaacaat tttttttttt gtacgcactt cacaatttcc 360  
cgtcaccttg gtctcac 377

<210> 848

<211> 427

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-A10

<400> 848

gcgtccgctg agaggaggaa agccacattg gaattgaaaa aaggtccaaa caagagaagt 60  
cagcagtggg gaaaattggg caatgtacag ggaagtatga cccagtaatg aggagtgggg 120  
taaacagaaa aggaagtaaa aggagggaat gaacggaagt tatggcaaaa acacgtgcc 180  
gcagcagcgg taaaacgtgt gtagcaagcg tagagcagaa gaactgggtg taaaggctga 240  
gtagtacagt aagtgtaaaa gggaaaggaa aggagagaaa gaggaagggt atgaaatgca 300  
tatatctcta gagaaaggca agaaagaaaa gaaaggaaga cacagtaa at gaggcgagaa 360  
agcacacgaa atttaaagc ttttaagaaac ctttttaatc aatgcattaa aagaaagaat 420  
gagtaag 427

<210> 849

<211> 344

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-A11

<400> 849

gtcaaagcca aaagcagttg agcacagcaa tatcaatatg tcaagtggct ggaataacta 60

tagtggaaacg gaaggtaatg ggaatgctgg tgctggacaa gggaagaacg gggatgggaa 120  
gaccagtggga gaacttgacg gagatagggtt aaaggggttg ggaatggcag ccttgtcagc 180  
gggtaagctg gtttatcgcg gtggcaagtg gtgtgtggat aaggtggaag gcgccattga 240  
cgaccacaag tcaaaaggaa gtaagagtgg cgggtggtgga aattcagggtt attctcgttg 300  
attcgtaata acttggatag aaacagaacg agaccgtttt ttaa 344

<210> 850  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-A12

<400> 850

cgtccggttc tatataacgt taccgccaca ggttggagac acaaaatcac acagtacaca 60  
gataacaaga atttttgctt gttcagaaga aacaagcata acaaatgcgt ggggtggtggg 120  
taaaagaacg cggttgagct tagactgtga acctttgttc ttctgactgt ataaagagtc 180  
ttattcttcg taactcggtc caaacctgag ttttcctgtc ccctaaaaat aagacattct 240  
cagctgtctt tgtccttttt caaggtgaat atatgattac accgaggagc ttttacactt 300  
atttttaacg tgcggacgca acagttttgt aattgttggtg tgtaatccca agtt 354

<210> 851  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-A2

<400> 851

acgcgtccgc catcgagtcc gcccacgcgt ccgcattttc ctggaatcat ctaggttgca 60  
tttggagtcc gcaattttcg agatagaaag caaggcatat tggaaatggc tcgcgtttta 120  
cgaaaggagt gacaacctcg gtggttgccc tgacaagtgg tggatcatgg aactcaccac 180  
gagaaccaac aacgacgaga gctatcattc tggaagaaga gctgtattgc accgaattgc 240  
ccagttgttt atacgttatg tggttccctg tctacgttta tggttgacag gtagtagata 300  
tgaatatcat tatttacaac agattttttt ttcttttccg gatgccacca cgtttcaaca 360

gtttttacag acacaatgtg ggtt

384

<210> 852  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-017-Q1-E1-A3  
  
<400> 852

cgtccgggaa gaacaatttg caagagggtg aacaaatgct gatggaagct cgtatgcgca 60  
tgcttacact ggaaaatagt gcaggctcca cattacacgc agttccagta gttcttcaag 120  
tggcgcgctca acaggaacag aagcttctga atcgcgggga gttgcatttg aaattgtcat 180  
gggctattac cctttcatta caggctcggt ccagtatatt ttacataaac atttcataga 240  
gcctttggaa gaaacaacga agcgtttggt tgtggcaagg aaagctttga ctgatgtctc 300  
actttcttgt atattagatg gtttatcatt tcgttctgtg cagttttttc aagaatttgg 360  
gttattatct gcaaagagaa ccgcacgcgt tgcttggtat tcggcaaatt ttaccagaag 420  
aacact 426

<210> 853  
<211> 444  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-017-Q1-E1-A5  
  
<400> 853

cacgcgtcag ccaacgcgtc cggaacgctt ggcctcgtt actgaaggag aagtagtttc 60  
tacttttgat catccagaat tggtaaagtt gggtcactgt ggtttgattg aagaggccat 120  
gggaggggaa gatagagtta ttcggttttc caggggtggt gcaaaggaag cttgtacaat 180  
tgtattgcga ggtgcaaaca agcagatttt agacgaggct gaacgttcgt tgcacgatgc 240  
actttgtgtt ctttcacaaa cggtaaatca ttccaaagta ttttacggtg gtggctctgc 300  
agaaatgttg atggccaaat tattttatga cttagcaaaa actattcctg gaaaacaatc 360  
acttgctgtg gaaggctttg ctacggcatt gcgtgctatt ccagcttggt gcagacaatg 420  
cacgttttga tgccacggaa ctta 444

<210> 854  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-A7  
  
 <400> 854  
  
 cacgcgtcag gaaacgaata aatctagagt agaaagctgt aaaaaaaaa gagggtaagc 60  
 ttataagcag caaaccacag aggaaagcgt taaagcatga aagaaaagaa atccgaaaaa 120  
 gaggagagaa aggtaagaaa gaggaccgaa tcaggggagg aggtagagga gcaagaagag 180  
 aagagagaat gctgggtgga gtagcgaaac atcagaaggg aagtaaaagg taagagatga 240  
 aagaccactg catgaagata aggaatctaa ctgagtaagg aaaataagct taagctatatt 300  
 tggctgggga agtaaagcct aatttttttt atattaggca agcaaaagca tgagagaagt 360  
 ataatagcat aagcatgctt gaagaaaaag aaagagattt cagaaaggga agaaaagtca 420  
 gctatagaga a 431

<210> 855  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-A8  
  
 <400> 855  
  
 cacgcgtcag ggacaacaac gatgcgcagt aatgtcgcga ttgttaactt tggaggacaa 60  
 ggataaagtt gctgatataa gagaacaaca gaaaagaata acggacaagt tgtcttccaa 120  
 tagggcgaaa gtggaggagt gtgtgaggga actggggggg ttgtatgagg aaacctgcag 180  
 tgactttcaa aggacgcttg gcaaaataag gcaactaaaa gaagacttgg agtatatgga 240  
 ccgcgttttg aatactttgc accaaaagaa ggaaggggat agtcaacaag agactgggga 300  
 aaagtgactc gacttgcaac aatttgtctc tagcttaacg ttgtaagttt catcatttgt 360  
 atctttcttt gtgacagttg ttgttggtgt tgttggtaaa cactatgttt tttttg 416

<210> 856  
 <211> 324  
 <212> DNA



<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-B11  
 <400> 856

cgacgcgtca acggacgagt gggcgatgag gaacaatata acaagcgcat ggcattgtcg 60  
 tgtcctttcc tttgtttgtg gaagcgatga cttcgattct tcacgacttg ggaatgggct 120  
 gggggaacac acccaatata cccctgcg cggagccatt gatagaactc cttttccact 180  
 tccttgctcc aaattatacc cccatctaca cctggataca tacgcgctta cgatactacc 240  
 gtttgacaac cacacaactg ctgtcttgac tgctggcgac tctgcctctc acgtggttta 300  
 tttttttttt tcacctcttc cccct 324

<210> 857  
 <211> 316  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-B12  
 <400> 857

cgtcaagacg aaaaaggaat gtagggaatt ggagtgaac gcaatacgag tggtcgatcc 60  
 tgaagtgttg tgcagttggg tgacacaatc ggatgtaccg ttggtagcgt tgacgacggc 120  
 aggcactttg gctcgaggag tgagcgtggc aaatatttca gtggattgca ccggaggaga 180  
 agaatttgtt gattattcct catttttgtt tgtatggtac catggaacaa cgaatgttgg 240  
 aaaagaagaa aggagaggag ggagaacaag agtcgattcc aattcggtgc aaggttaattg 300  
 attttttttt gaaaga 316

<210> 858  
 <211> 354  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-B2  
 <400> 858

gcgtccggta gtagattgag ttggtttggg attgttgtgt ataagaggag ttgcaaagag 60  
 gaaaacatgt caaagtttgc cttgcctgca ttgccttatg actacagtgc cttggaacca 120

cagggcgaca ctatgactat gaacgtacat cagaggggag atcaccaaac ttatgtcaac 180  
aatttgaatg gtgccatata aggggaacat gggggtcagt tcaagggctt ctccatcgaa 240  
aacatccaga ggaatgctgc aaaggcacct gatgctatca aggcaactgt gataaataat 300  
ggcggtggtc actacaatca ttttttgttt tggacactca cggcacccac acga 354

<210> 859  
<211> 312  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-B3  
<400> 859

gcgtccgcta ccacaagatg acgagaatgg catttgtaac ctacaatgac ttactgttaa 60  
aaaaaccgaa acacaataat gcgaaacata cttcacacag aaccaagatt atggcttcca 120  
acgggtgggtc tgccttcgat tagccttata tacagggagt gacctttcgt ccttcagaaa 180  
gctactaaaa cacaaatttt gcacaccctt tacagaaaac gtggtcagga gagttatcta 240  
caactgggtgc ttgggaacgt ctcatatcaa ccagttttct tgacgaacta ttggttcctc 300  
cggagtcac ac 312

<210> 860  
<211> 441  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-B5  
<400> 860

cacgcgtcag ctatcctttg gtacaatgga tttgactggg gcataagatg tttctcaact 60  
tggttgagct tcaagtcgtc tatttttagc aagcgtcct gtacaaaata gcaattcaga 120  
ggctcgtggg ttattatccg cattaccatc tcggggggac gaagttgctt tgtacacctc 180  
ggcggctgga gtcgtgtttg gtttccctta tttgactcca aaacggcccg atccaaacaa 240  
agatacttgg taccagagca tcaaaaagcc tgtttgtgaa tcaccaatt ggttgtttcc 300  
ggcagtgtgg atccactct tttttttata aagcgttagt ttgttcttgt tatggaacat 360  
acaatgagaa tttctgcta ttcctagtgc tgccattgtc gttcatctga gctttgggaa 420

cttgtggaac tacctgtttt t

441

<210> 861

<211> 454

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-B6

<400> 861

cacgcgtcag ccacgcgctc cgatgggtctt gtacctttgc accttaaaaa tgcagcttca 60  
aactttgaat ctgaacttaa atccattctc aactatcatt tacgtgaact ttatcaacag 120  
acgtgggggtc tgaagacaa agtttctgct gttgggggggt gtcttttctc gggtcaaagt 180  
catggggcgt tatcctcaga agtggtgccga gaacatataa atgcaatatg ctttttacgt 240  
gacaacggcg gctgggtctcg tctagaagaa aggagacgctc aaatatagaa cctaaatgct 300  
gaagtcagaa aaattctttc attttgtttt caggttctcg acaaggagag ggatcgtgca 360  
cttattgcag gggctcgat atcgaacggc ttgcgggtctt atgatgaaaa ttcacgcgct 420  
gtaacaagag gatacaaaca ggaactgaaa agat 454

<210> 862

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-B8

<400> 862

ccacgcgtcc agcaaattt ctgtcctgct gatgattaca aactcccac accacagcat 60  
tacacaccta caaccaacac atcaatttgc atgcatcaga ctgtgataca atgcaacgga 120  
tacgtttaat aaaatcaaatt catggggggag ggagattcaa agaggtttga acaaagtggg 180  
cccttgcaag gtagaatatc ttcactatga tattgaagac cttctcatcg attcagctga 240  
tttatcacia tctctgggtga tgacttaata agttggcaac atacactaac cacacttctg 300  
ccgaaaaatg taggcattgc aatactacat attcaggata tacttttttt ttcatatacc 360  
ctcgtatcta aaccctacia aaccatctg tagaattgt 399

<210> 863

<211> 222  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-C12  
  
 <400> 863  
  
 gtccacagga aacttccatt gagtgccttc caaagcaa at acaattgctg gacaaacagg 60  
 aactggaact gttagatttg aggaagaggg tatggcaact cataaagaaa ggagagtgtt 120  
 tgccacgttt ggactgtgca gacgtgggac tgcgtcctac tattcaaaca agtaaaacca 180  
 cacacttcaa gcctggtgac cactgtttgg agacgtattt tc 222

<210> 864  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-C2  
  
 <400> 864  
  
 gcgtccgcca gcaagtccgc ccacgcgtcc gccacgcgt ccgggaattc tcaaccagcg 60  
 ttagcttttc atctgaaaaa gacaaatccg gttttgcagg attaacaagg tcttcaaatt 120  
 atggggggagt tgaacctcat cgacgatgtt tcgaatgagg gtgtacgcaa ccattcgagt 180  
 gaagatggct acattacagt tgttctcgca ggagtagaca tgaaacacgt aaatattacg 240  
 aggagtgaag acaatcaagt tgaaatggaa gttgcatttc aaagtgacga tccccacaat 300  
 ttctatttct ggagagaaac tattttatct tcaacaagaa cagtaaatgg cacaagttt 360  
 acatgtttca gatagaactt ggctttcgac ctatacaaga gtacatggaa aacatg 416

<210> 865  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-C3  
  
 <400> 865  
  
 gcgtccggaa agagaaagta tagagtgtgc ggctgcca ataataaaga agaaatcgat 60  
 gaaagtgaag gcgagtaaaa gatgaggtat agagaatggc ggtcctaact gtaaggatcc 120

aaggggtggcg aagtaaatag acgtttgaaa ggcgtgCGGT atgaaaggag aaacgagtgt 180  
 agcactgtct aatcgtccaa ctCagcgaaa cagcaataac tgtgaaaatg cagtaaacta 240  
 gcagtaggac gggaaagacc ccataattct tgactagata ggttttaggga ggagagagaa 300  
 tcatgaagta gaggaggtgg tttattttat gaaagaccac tgcAtgagga taacgaatct 360  
 aactgagtaa ggaaaataag cttaagctaa tttgg 395

<210> 866  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-C4  
 <400> 866

gcgtccgcca gcacgtccga gagaaatggc aggcaacgtg gaaaaaacac ttgacttgat 60  
 tttgttgga ctagacgaag aaatactggc caagttgCGT ggagacagag agcttctagg 120  
 aaggcggagg ttggtacgaa taaatatctc agtggggagt gttgatatct attcaggcgt 180  
 ttgatcaaca catgaacttg gtgttgagcg acgtcgaaga aaccgcgttg aaggtggaag 240  
 tggataacga aacgggagaa gaactgataa agtcggtaaa aagaaagatg cccatgttgt 300  
 ttgtgcgtgg agatggcgtt taatagtgtt gtcCacccc ttcgaacggc ctaggaagaa 360  
 cgtatgtgta aaagctattc tcaggtttct tgggttctcg acgaagagtg atgacacc 418

<210> 867  
 <211> 466  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-C5  
 <400> 867

cacgcgtcaa ccagcgcgtc cgcccacgCG tccggccaat ttagtacaaa tcacttttgt 60  
 gcagtattgc cagtgcagct agaagaaaca taagaagtcc aaactttttg gactctactt 120  
 tgagggctat ctacactggc aatgtaaata caagggggag tgtcaagtta tccctttttg 180  
 taggaagaga gtgacaaggg agttgcgtta ccaagacggc atgtctaggc actcggcgac 240  
 acaaaaagat aatgtgtagg gcaaaacact gaatgagagt cgatatagag tgagcgtgca 300

tgctactggc aatgtatcat ttgttttttc gtccgttaca tagccagctg tcgtgtcatt 360  
 gtttcttgcg ttagttagct cctgtataac aatgctacca agccttcttg caatcgtcca 420  
 ggcacatcag caatttataa ttcaagtttg ctttggaata ccaaac 466

<210> 868  
 <211> 462  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-C7

<400> 868

cacgcgtcaa ggacttgatt ggtgttgtgg tttgtgagag acaaaaagta cggaaaagga 60  
 acaaaagcag ttgcgtattc ttgttacagg tgctggaggc ttatttggct cccatcttgc 120  
 aggggggctg aaggaaaaag gccactatat tagcgggggg gactggaaag aaaacgaata 180  
 ttttaaacag gaagactttt gtgacgagtt tcttctttta gaccttagag agctccaaaa 240  
 ctgtatcaag gcaactaagg actgtgacca cgtttacaat ctggctgcgg atatgggtgg 300  
 tatgggtttt atacagtcaa ttttttctgt tatcttgtat aacaatacta tgatatcggt 360  
 taacatgctg gaagcagcca gaataaaciaa cgtgaagaga tatttctatg cctcctctgc 420  
 ctgtgtgtat ccacaaaata aacagctaca ccccaaaaat cc 462

<210> 869  
 <211> 449  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-C8

<400> 869

cacgcgtcaa ccagcgcgtc cggctgaacc attgggaaag ttaaacactg gtgcaactat 60  
 tcctcttctg ggctttggaa cctggaaagc tgagcctgga gtggttgggt aatgtgtgaa 120  
 aggggcgtat gacgtcagtt acagacactt tgagggtggt gctatatatc aaaatgaaaa 180  
 ggaaattgga caagcttttt cagaactttt ctccagagga gtgaagagat cagacatatt 240  
 tgctacttct aaagtgtgga atacctgcca cgatcctcaa agagtggctg aagcttgtaa 300  
 acaaactctg caagatttat ttctttttta tccagacctt tacttggttc actggccttg 360

caactgggag ttacgggtc tgcctattac tgcagataac tggattccca atgatcagga 420  
 tgggaacata cagttttcca aggtttcac 449

<210> 870  
 <211> 372  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-D10  
 <400> 870

gcgtcaacgg acacgtgggc ggacgcgtgg ggggacgagt gggattaaat tgttcaggtc 60  
 ataagaaagg aaatgggtgat ggaataactt ctgtttcatt tagtcctcgt tggccttggg 120  
 gtattgcgac tggttcgttg ggggagaggg tgagagtatt cgatgtagag accggtgaac 180  
 ttttgcacaa ttttcgtcaa catgcatatt ctgtatatcc tgttgccctt tgcagtgatg 240  
 gaagatatct gctatcacgt tcaattgata agaacgttat attatgggat tctgcatctt 300  
 tttctttaaa taactataca attttcaaag gccatactga ctttgttttg tccgtcccaa 360  
 tttactctaa at 372

<210> 871  
 <211> 287  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-D3  
 <400> 871

gcgtccgtaa tgaaatacct tgcacagcc agtgagtata agatcatgag gaggaagtat 60  
 aggaagagaa gaagtagaag aaatagtga ggaataata ataggagtaa tggtagtat 120  
 agggaggaac atgaggaaga aagaggcaaa tacgggaggg cagtaaaaca agaaagagaa 180  
 aggaaaaaac tgagtatcag gaagaaaaca cggagtacat gatgaaagaa cgatcaacga 240  
 agtaacacta agacaaggag taatctgaat gaaaccagga aagtatt 287

<210> 872  
 <211> 447  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-D6

<400> 872

cacgcgtcag ccaaagcgtc cgtttggaag agctgaggag aaggaaaaag ccaggaggca 60  
acaagaagcg ttgaaagctc aagtggggaa tacctgcaaa atcgtagaag aaaataactga 120  
aagtgcgggtt tccaaaggtt tttcagttgc ttgtgggggg gacaaagtgc aatacaacgc 180  
gaaaaaacac atggagagga agcgaaaagg agagtgcagg acgcttcgaa aagacggtgg 240  
atgtttccgt tgttggaaga agagtcgagt gatgaggagc aggaggatag tacgacaagt 300  
ccaactactt gtttggatac tatttgtttc ccgtcgtcaa gtgaaacatt gttgccttta 360  
tctgtataat aacttgtaat aacacacata aataaatata actagagata ttgtttctag 420  
atgaaaaaaa cacaaaaaag gccgccg 447

<210> 873

<211> 435

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-D7

<400> 873

cacgcgtcag ccaacgcgtc cgaatatttg tgcgcgcgcg ctcttatttt tttttttgct 60  
ctttcttgga tgagaatcaa tcctttatta agaagtgatg ggtctcctga aagaaaagaa 120  
gggggagcat tcgtatggga ctgtagtttt gtcggtgggg aatattccat aacagataga 180  
gatgggttta taaaggagga atactttggg tttggacaag tatatgtgtc attgtttcga 240  
ctggtattca tttggaagcc tccttgctgt cctcaatatc gagctttgga gttggagttg 300  
agtagcatgt tcgaagaatt ttttttttta gagttgtttg ggctcctgt atttcgagta 360  
aaagtcaacg agtcggtgga caatgaacaa caacagaacg gttgtctgac aggggtttttg 420  
gaattttctt gtttt 435

<210> 874

<211> 295

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-D8



<400> 874

acgctaaaga attgacgcac tagatcacia actcacccat gcaagtaggt aactcgaatg 60  
ggttagtaca taagtgtgaa acattggaac aacatgaacg cggagagaaa ctctatatata 120  
cccatattca aaggcggcac gttaaataagga cccggaatct gacaggagga aagccacatt 180  
gcaacctgac aaaaggtcca cagccgcaga attcatcact acgaataatt ggctgtctc 240  
caaggaagtt ttaccagta ttgcagagtc cattaaacag aaattgtatt acaac 295

<210> 875

<211> 290

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-017-Q1-E1-D9

<400> 875

gtcaaccac acgtccgga cgagaaaggc gtcgacgacg aaagaagatc gctgtaggaa 60  
caacgacata aaatgtctgt ttattacaa agttcggatt ttcaacacat tcttcggagt 120  
tctgaatacc aacattgatg ggaagaggaa agttatgtat gcgttaaccg ccataaaggg 180  
tgtgggtaga cgttttctcca atttagtctt aaaaaaggcg gaggttgacc tgagtaagcg 240  
tgctggagat ttgacgtccg aagagattga ccgcatagtc accatcatgc 290

<210> 876

<211> 325

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-017-Q1-E1-E10

<400> 876

gtcaaagtaa aatgagggaa tgaagggaag ttatgacaaa cacacctgcc agcagcatcg 60  
gtaaaacgtg ttagcaagc gtacagcaga acaactgggt gtaaaggctcg agtacgggac 120  
taagtgtaaa acggacagga ggggagagag agaggaaagg gatgaaatgc agagatctct 180  
agagaaaggc acgacagaac agaaacgaag acacagtaaa tgaggcgaga aagcatacga 240  
agtgaacgg attacgaacc cgtgtagtct atccagtaaa agacacaatg agtaacattt 300  
tttggattca ttccaccagg ggagt 325

<210> 877  
 <211> 310  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-E11  
  
 <400> 877  
  
 cgtcaaccca caagtccgcc catacgtcaa attataaaac gaaaatatta aaacgaaatc 60  
 agtcaataat aagacttgta ctgaaagatc aaacctgttt catattttct gagttcgggg 120  
 accaattaaa gtttgaaatt ggagtcggga gattatatca gaattgggag tcttcatacc 180  
 agcatatgac gaacactgaa acgacagcga cgaccaacaa taaccgtcca acaatctaca 240  
 aattcttaca ttctctaatt tttagaatcc ttgttttctt atataaagtt acccaatttt 300  
 tttttttttt 310

<210> 878  
 <211> 303  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-E12  
  
 <400> 878  
  
 ctcatccggt actcgtgaaa tgggaaaact tttatctcac acagcattgt taacttgttg 60  
 ccattcgatt gaagaccgtg cttcatttgc cgggacaggg ggtcacatga ccaacctcac 120  
 atgggcaggg aatcgctctc cggctgagca cactaatcat tccactgcca cgactacaca 180  
 aactcctcaa atgacagttg ttcaagaccg tcataacacc tcatatgaat aacctacttg 240  
 cattgtgtcc gtttgccctt acaaaacctc cccccctttt tttttttttt cggccgtccc 300  
 ccc 303

<210> 879  
 <211> 331  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-E2  
  
 <400> 879

gcgtccgata aaacagaaaa gctttcatga gaagtgaac aaaaaaattt gtcgtttttg 60  
gcgccttttg tgtatcagcg ctttctcgtg tgtttgttta cttggaaccc tctgttgatt 120  
gggggttttc attctaattt ctttgtactc aaagggagtc gacggtttgt tacactgact 180  
gttgggtgcc ctgttttagc tcttgccgct agtctttcgt ttgcgcata ttatcgacgc 240  
aaaagtatgc cgatttttgc aaacgaagac acatttttcg agtgaaggca caatgtttgc 300  
gaaaataaac aatagtttcg tgattctttt g 331

<210> 880  
<211> 212  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-E4  
<400> 880

gcgtccgaga ctagctgttt gcttgttcgc aatatgtggt caacaatgaa agtggttctg 60  
ctgctcaagg cttagtcgcg cctgttattc aatttttata aagaatttat aagaattgta 120  
agggggggag ttatacttta aaaaaaaaaa aaagagaggg aaaataatca aaatacgggg 180  
gaaaccgtca aagatattat gtaaaccatg aa 212

<210> 881  
<211> 450  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-E5  
<400> 881

cacgcgtcaa ccaaagcgtc cgggtgttgt gtcgtgtacg agggtaagac atttgttgag 60  
ctgaagagtc aatgaacaag cttcagttgc tatacgtaac caaacaagct gtttcaaaag 120  
catgggagag agaacagaaa aggttatact ccgagagggg ggtcagttgc agaaggaact 180  
ttgggaagca ggtggaagga aagagaaact gcacaagaga gcgcgtactt taatcgtgaa 240  
gatgagcagg cagtacaaag gttagcagcg aaacttcggc agcaaattga gccatcggag 300  
gaagtactcg cccaacaaag aaattttttt tttagaaatc ttacaaaagc acggtgtcca 360  
gccaatcaa agtttgattg aagatattgt ccgtttcttt cattaattcc cccgtgtttg 420

atgtttaact gccgttcaac tacaattttg

450

<210> 882

<211> 462

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-E6

<400> 882

cacgcgtcaa gtacaaagca ctgctattta gtgtactgct tcataaacac aatatccacg 60  
acgctataat ctacactaat tgtgctgttc cagcttctcg cgatattgct ctggagcttc 120  
caggggggtgc tctcaacata aagggttcttg tggggggggg aactttgtat cttaccaag 180  
aagctgcttt ttgaaacgca cgaacataga acagttggac gagaatatcc cacatgaaac 240  
agctacgaac ccttgtaagg ctgtagtggt atcctgtttg caagcaagtt tgaacctaat 300  
ctactagtta tattgccttt aagtcaattt acttgcaaga acttctctat ctggaaagga 360  
caactcgatc acataaaacc atggaaactt gggactgaac cactgtactg gcgacctgcc 420  
ataaagtttt tacaaatcgt tcccagcaaa catatatgat aa 462

<210> 883

<211> 445

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-E7

<400> 883

cacgcgtcag atatctcctt ctcacccaac tagtagaaga atatgttggc gtttacttgt 60  
ctcccagact gtcgttggtt agagacttct cgattctcca gatgtgccaa agccaatacc 120  
gtgggggtgc gacgtagttc ccagtgttca cacgcggggg agagtgtttc gatgaactac 180  
agtccttatt cgataactac cgacaagtca gaaggacata ttgtccccgg tactttttca 240  
agatttgagt ttcttgaagg tcgagtcacc ggtccaaccg tcttgaacct tagcatactt 300  
gactttacag tgtcgaatgt ttttttttct gcctttggag aatggagagc attatcggct 360  
tcaagtatag cgagagaact ggaacacata acaaacgtca cccacgcgac aatagaaagt 420  
ctcaagaaga ctccctaccga aaagt 445

<210> 884  
 <211> 304  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-E8  
  
 <400> 884  
  
 cacgcgtcag ctatagcgtc cagcacgtac cttttgcata atatcaaaac tattaanaaga 60  
 cgaacccttt atacacaagt acaactaacc acttaacacc cgaaaccaga tgatcttatg 120  
 ccggcgaggc caattcaggc tgaaccatta tctgtggggg gtgatttaga agacatcgca 180  
 tatcgggtaa aaggccattc aaagcgattg atagcttcta cacctcgaaa gctatatctt 240  
 tatcgatatgc agtaaagtag aacgtatacg aagagacaga agagacaaac agggactatc 300  
 atcg 304

<210> 885  
 <211> 314  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-E9  
  
 <400> 885  
  
 tttctatggc tgcaatattc atctgcaaag cttgcttcag atcttttcct atgcaacatt 60  
 tgtttttcaa caacgcacag aaaaaaacia ttttccaagg tggcaaagtt aacaccagtc 120  
 ttttgtttgg agtgaaaagg aagttccatg cagattcaac ctgcgttttg aaaagcacca 180  
 atactgtaac ttgcaaatta cagcctaatt tttttaacia cttattaatg ggcttttctg 240  
 ctgggtgtat cgctcgctt gtacgagctg gacgaggagt tttgtttaca cctttttttg 300  
 taacggtatc agac 314

<210> 886  
 <211> 115  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-F1  
  
 <400> 886

gcgtccgcaa gcaccagcaa acgacactaa gttgaagaat gcattaaaca tcacctcatt 60  
 cttgaacgac ctagcagctg gaggtgtacc tggggcaacc tccaatatgg ctgtc 115

<210> 887  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-F11  
 <400> 887

acgcccgcgt ccgtggcgat gtcggttggg attcctatta aactgttaca cgaagcagtg 60  
 tcccaaaccg ttactgtaga aacaaagagc ggtgaccttt atcgtggaac tttacacgag 120  
 gcagaggata atatgaattg tcaactgagg aaagtgactt gtactggaag agacgggaaa 180  
 atcactccct ttgaacatgt tttccttcga ggtagtaaaa taagggttttt tatcgtccca 240  
 gatataattag caaacgctcc catgttcaaa agagtggaag ctattaagga aggaaagact 300  
 ggaacatgtc ttgggttagg aagaggtcga ggttttattg gaggtcccct ataaaccaag 360  
 atacgttgca gaaattaaaa gggggccgaaa cctcccaaaa aaattcattc ttagaaaaac 420  
 ctatagacat atatacgccc a 441

<210> 888  
 <211> 308  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-F12  
 <400> 888

gcgtcaaaaa ggaaacaaag ctattgcagc agcaacaaca tgtgagattg attcttatcg 60  
 cttggacgcc acaaagccag taacggtgaa attctctttt cttgcaaaa caggaaatag 120  
 ccgcagcgca tgcaaggatt ttaggacagg gatttaacca caaaagatga gagatgaatg 180  
 cctacttatt ttgatgcata ctgcgatgac taggtctctg cgtacttcgt ttactgaatg 240  
 tgggtaatgt tcatgctatt tataaagggtt ttctgcttgt tcaacatttg ttaaaaattt 300  
 tttttttt 308

<210> 889

<211> 396  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-F2

<400> 889

gcgtccgtga aaactttgtc ttttctatct ctttccaaat gtataaacac tgcaactgcc 60  
tttttaataca aaaagtaaag atcttcgggt atctcaggag ccaatccatt cgcctttaag 120  
atgcgagcta tcttattgcc agtaacttgt ttcacgagag gaacaccttg agagtcacgt 180  
agatgaacgc caatttgoga aggaactaga ccttttctag ccaacttgca aatcatatcg 240  
acaacttcgt tcggtgtcgt ttttaccac gaggggtgggt tccgtttata ggggaattacc 300  
gactgggcaa ttcccttact atttttatcc ctgaatatat ttcaagtaat cgaacagaat 360  
aaacttaccc tttactgtgc atacgccccca tgtttc 396

<210> 890  
<211> 263  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-F3

<400> 890

gcgtccgcta cgaggtagaa tgattcggct gcacatggat ttaccatgac ttttaatact 60  
gtttcgagtt ccgtcatttg ctcttgatg agtttctcat aacataaaact ctgttgctgc 120  
caggggttgg atgacgactc ggcttcttct ccagggggga ccagtcaaag tgctccttac 180  
tcgattccgc atgaaaaagt gaggaataaa tatgaaataa ttgttcatat gaaaaacaaa 240  
aaaatcgcca aactatcgta aac 263

<210> 891  
<211> 153  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-F4

<400> 891

gcgtccggaa caagaaagaa cgagtataag gagacaagta agaaaaacga agacggacct 60

aaaggaggag gaggtaaaga tgactaccag acacttatgg tagtacgacg actaatgatg 120  
ccggggggat gacggataat acggttacgt tat 153

<210> 892  
<211> 440  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-017-Q1-E1-F5  
  
<400> 892

cacgcgtcaa ccaacgcgtc cgggtgtgtt gtgtgattgg ttagaataaa ggcgcctatt 60  
ttcaaagagt ccaacctagt gagaaaacat gaatccggaa tatgactacc ttttcaagtt 120  
gtggcggata tgcgactctg gagtgggaaa gtcggggggc ttgttgcgtt ttgccgacga 180  
cacttacaac gagagttata tatcgacgat tggagtatac tttaaaattc gcacgataga 240  
actggatgga aagaccgtca agcttcaa atgggatacc gctggacaag aacgtttccg 300  
cactatcact tttcatatt tttttttttt atacggcatc attattgtgt atgacgttac 360  
cgaccaggaa tcgttcaata atgtcaatac ctggttgac gaaattgata catattccaa 420  
tgagagtgtg aacaaacttt 440

<210> 893  
<211> 436  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-017-Q1-E1-F6  
  
<400> 893

cacaagaaac aacaactgct gcttctccaa ccagacacgg aatgattggc ataactcgaa 60  
tgactctaga tttgcttacc agctgctgtt ctattgtccc aatcgacact cctgcgcaaa 120  
tgggggctag aaggtgtttt tccggtttcc atcgggtggg ttatggactt aagagcttca 180  
gagactacat caggctttac tgctaaaacg atgacgtcag catgcaatat ctcaaaactg 240  
tttttacagg tccctactcc cattttctga aaaagatcca gacgagactc aactacgtca 300  
tagacagtaa cacaagaatt tattatTTTT ttcctttcta taataccccg aatgatggct 360  
tctgcaaaac acctccacct aagaaacca acctcaacgg caaagaacgt tgttccatac 420



cagtgtacaa ctttgc

436

<210> 894  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-017-Q1-E1-F7  
  
<400> 894

cacgcgtcag atagaaaatc atggtagaca ctaagcttaa ggacgatgct agtgctgctc 60  
tttggacttg ccgcctatct ctctatacag ttgtgttagc attttcagca acaataattg 120  
gggttgatgg aaggaaggca gataacatat ggagggaggc cctatattat catggaaaag 180  
tggtgaactt ttgtgcatat tcggcttcgt ctgtttttga aggtggcgac catggcgcat 240  
gtaaatatgt gatggctttg gcttctatca gcttgatttt acttttcttt ctttggttgg 300  
cctcctttgt cgacgcattt ttttttttct ctacaaagtt ctggtttctg gaacttggtg 360  
tcaacatatt ccttaatatg tgggtggttg ttggtgcaat tgtggtgact gcaaagcgac 420  
ctt 423

<210> 895  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-017-Q1-E1-F8  
  
<400> 895

ccacgcgtca gccaaagcgt ccgggaagta taaagaagag agtgtaaagc ggcgtcataa 60  
tagaaatccg aaaggagtag aagaaaagag agagaagaaa gaaaagaaga gaaaaaggta 120  
agagagagga ccgaatcagg gtaagaggta taggaggggg aggagaagag agaattgctg 180  
gtggagtaac gaaacaagac aagggaagta aaatgtaaga aagaggaaag gtttacgcag 240  
agaatgaact ataaataaga gagtgtaagg cggcgtcata atagaaatcc gacaggagta 300  
caataaaaca cagacaacaa agaatttata ttttttccgt actgaaaacc gaatcagggt 360

<210> 896  
<211> 311  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-F9  
 <400> 896  
 tcaaaaaaaaa tggtgttggt tattcaaaaa aaaaaaatta aaaacaaaat aaatttataa 60  
 aaaaaaaaaa aaaaaaaaca aaaaaatata aaataaatac atatcaaaat gggccgtggc 120  
 cccatatgtt ccatacctta catggctggg tcatgcaatt ttttactcct cctcaaactt 180  
 taacacaatt tcaattcaca tcctctcatt ttacaacctc ttattttctta aaactttttc 240  
 ttttttcaac taaactccct tttatcacat ccccttttca ccaactgcct taataccttt 300  
 tttttttttt t 311

<210> 897  
 <211> 283  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-G1  
 <400> 897  
 gtccgcgacc aagtcggcgg acgcttggtt gagcaaataa aacattggaa cgtttttata 60  
 tgagttgggc aaagcatgaa ctacaaacac ctccatatta cttatatact taatgaaaag 120  
 ggggggacat ctacaagtag tcaataatac tggggggggg tcctattttg actaccactg 180  
 aaatataaag tttgcagtca caactctctt tcaaactgcc aaccacggca ttcgggtcaaa 240  
 acaccctttc gtttcactac aatatacacc cgaagtttta ctt 283

<210> 898  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-G11  
 <400> 898  
 cgtcaaccce cacgtccgaa atattgaagc agatttgtca tcacgtacaa aaagaaatag 60  
 aaaagcaact ggcagagagg aatgtgcaag aagtgattcg ttttgatccg aggctgaggg 120  
 aaaagggttt gttggatggt cagagtggga aggtggatgt tccggatact atttaacaaa 180

agtgtgtctc tcataaacta tttcacttgt atgtgaagaa caaaacagat atttttttta 240  
tcattgaaaa ggactcctat aatttggtgg atacgacaag gaaaatatca cttggcttgt 300  
ttttattcga tcgaatcttt gcaattgttt tttggctgca ctgtgcgatg gg 352

<210> 899  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-G2  
<400> 899

gcgtccgaaa tgtacaactc gttccagagc aggaagatgc gacaactttg caactaggag 60  
aagacttttc gagtgaaaaa gccagccac ttactattag tgaagttttt attcttttgt 120  
cgcgagggag agatatgatg cgagagttgg aaggcgggag agcagatgaa ttttcaagtg 180  
tctttaagaa atttttggaa tatgtacagc gctttgaccg ttacaagggc cttgaagctg 240  
caaccaacgt ccgaaacctg ttgcaacgat atgataattt ggatcccttt gaaatggctt 300  
gtttggctaa tctttgccct ttttatttta agaggccaaa actattattc caagtttaaa 360  
gcacaaaatc gacgactcct cggtgaatca gttgcttcaa gacttatctt ccttcactca 420  
c 421

<210> 900  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-G3  
<400> 900

gcgtccgcga acacgtgggg gccagtttcc tcaggagcca ataaaaaac tttttgtcaa 60  
aatattatct tcgaagctga tagtatggag gaaatttgca acaattattt cttcgcttct 120  
aggggtgctt tgggcctagg atgcctgaaa cattggggga gaaggtgcgc tcacctggat 180  
tgtctgtcac aagaccaagg ggaaagactt acaccagagt acacgtctaa cgagtgtact 240  
gttcaaaata tttgtttccc tgagcttgca acggagatat ctcaagatga agttttagag 300  
aactatctac ttgatgatta tttttttttt tccaaccata attttgtgat cgaaagttgg 360

cgttcattcc aaaaagatga tttttcgttg tcagataact tctctcaaga gcaaactgtct 420  
 ttttcacaag act 433

<210> 901  
 <211> 282  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-G4  
 <400> 901

gcgtccgcc ggcagtcgc ccacgcgtcc gccacgcgt ccgacaacac gtccgccac 60  
 gcgtccgcc acgcgtccgc ccacgcgtcc ggaaagaggc aaatacggga aagcagtaca 120  
 agaggaggga gaaaggaaaa aactgactat cacgaggggg ggacggagta gatgacgaaa 180  
 gaaagatcaa ggaagtaaca gtaagacaac gagtaatgtg aatgaaagca cgaaagtatt 240  
 tgaacaagag agtgtaaagc gcgtaccttt tgcataatgt cc 282

<210> 902  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-017-Q1-E1-G5  
 <400> 902

cacgcgtcag ctagagaata ccagtcacc tacttcaata ttcgtagtat aggcgaaact 60  
 gttcgtctac tatttgaaga caatggcatc aaatactcgg aagagagggt agaagctggc 120  
 gagcagtggc aaaaactcaa gcaagaaggc gtgtcggggg gcaagatccc cttttgtcag 180  
 atgcctgtat tgcgcgatgg gagcatgtat ttagcgcaga gtggtgcaat acttcgtcat 240  
 ttagcgagaa aacataacct ctatggagac acggaagaag agaaagcgtt ggcggatatg 300  
 atcaacgact ttgccaacga tctttttttt ccgtacgtgc gcatgattta cagtatacgy 360  
 tggaacgaga tgttaccga gtatttggaa acggccaaga agcaattgga gttattggac 420  
 aagtatttga ctcgtcggg 439

<210> 903  
 <211> 273  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-G7

<400> 903

cacgcgtcag ggacccaccg cgtcattcct tgttgtgtat ccatgaaaag tttccacctc 60

atatcgacta gttcgtacta caacagtttc tttcaagcgt ggattatcgc aagcacttaa 120

gggggatgac gctactttctg cttcacaaac acgggggggt tctactccgg gttcctcctt 180

acatctccaa cgaaataccc acatatgctg tcaagttttc actcaaacct tttgctaccc 240

acctcatcca agctccataa cccattgctt acc 273

<210> 904

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-G8

<400> 904

cacgcgtcag ggacacatgg cctccgagta tcttgggtat attagaacag agaaatatga 60

caaagagcca agtagacgaa aggaactgat cgtaactgt gagaaacct tcaacgcgga 120

gaggaggccg gatctccttc ctagaagctt ctagggtgga aacgacctct tttttgtaag 180

gaaccatgca cctgtgcctc tgttgaagag tgaagaagag ttcagacttc gtagtagaagg 240

tattgtggcg tatccactac ttctctccct ggaggatctc aagacaaagt ttcggaaaca 300

tactgtcgca gcggtgttgc agtgtgcatg aaacagacgt actgaaatga gtcgtatcaa 360

accagttgat ggagttcctt ggttacatgg cacagctggg aacgcaattt ggtctggagt 420

attactcagg gatgtgctaa tagcacctgg cgtata 456

<210> 905

<211> 245

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-G9

<400> 905

gtttttaaaa atgaaattga ccccataggt ggaacaagaa acccaaagga caaccaatat 60

atgaaaatga ctttgaatca acttttgggg gaattggatg gctttaaccc caaggaaggt 120  
attattgtaa ttggtgcaac caactttcaa aagtcgttgg acaacgcttt ggttcgtcca 180  
gatcgttttg atacgcatgt ggtggttccc taaccctgac gtggaacgtc gaagacagat 240  
actcg 245

<210> 906  
<211> 350  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-H10  
<400> 906

cgtcaaaaga aaaagctaga ctacgagaag tatctcagcg ggcatatgcg gaaatggaaa 60  
atgtgcgaaa gattgccccaa agagacgtgg aaaatgctag gaaatatagt agcgggtgggt 120  
ttgccaaaga cttgttggaa gtggcgggga acttggaag agcactacaa aatataccgt 180  
cggagaaaact cgaccctgaa aaggagacg ctatcgatg cggtttgtat gaaggggtaa 240  
aagctacgaa tgatgtatta cataaagtat ttcagacgta tggattgaa aagtatgatc 300  
ctatttgaga gaagtttgat cccaatctac atcaagcaat gtttcaagtt 350

<210> 907  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-017-Q1-E1-H2  
<400> 907

cgtccgctat aaatggcatg gaatcataag gcctacacac aaatgactat cagcgcatca 60  
tgaagtgtga catggatatt cgaaaagact tgtatggcaa tgttgactt tctggcggtt 120  
cgaggagtgt ttcttggtat tgctgacaag atggagggga gctaatactc gtttcaccat 180  
cgtcaatgaa cataaagatt gttgctccag cggaacgaaa gtactccgta tggattgggtg 240  
gaagtatact tgcacgttg tccacgtttc acaaatgtg gatcaccaca caagaatatg 300  
aacaagcgg ccctgggtatt gtttttctat aatgccttta acagccttgc actgcaatgt 360  
gccgtacgtt gaccgacaca attggaacaa ta 392

<210> 908  
 <211> 463  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-H3

<400> 908

```
gcgtccgcca acgagtcgc ccacgcgtcc gcgaatggtg gctataccag tgctggtgct 60
aaagcaacgt ctagtcaaac aggaggaaat gccaaagtctc aagcacaggg atcaagtact 120
ggggcgggct cagatagtgc tttgagtcaa gcacaggggtg gtttggatca ggcagaaagc 180
agtgttcaga gtcaaggctc ttcttcaaac ggaggagact ttgggttact ttctggaagc 240
ttctttcgtc aagggtataca agtaacagct ttttcgaaca attcagagtc ctgctctacc 300
gtgggtcctt ttcagcttga ctctgtattc ttttcgtttg tggaaactgc ggacggcatg 360
gcctatttgc agatttgcag cgcttcttaa atcttctgta tttttgtgtg tttatagtat 420
ttcaaaattc tgatcaaggc catcacaacg aataaaaacc ttt 463
```

<210> 909  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-H5

<400> 909

```
cacgcgtcag aaaaaaccca aacaagagga gagtcttcgg aaaccaatat tgtctgggta 60
gatatcacag gaattgttga gttgttttgg aaaaaatgga aaccttgttt gaacaatagg 120
gaggcgggtc tttgcagcat tctcgatagt ggcgggggga cggttatttc gacaggtttg 180
ttgaatagat tgatgcttga atttccttgc caaggactcg tttggaaagc acaagactct 240
cttttgcagt atgggcgatt agaaaagttg ttatttttct tcacacaagt tgacccttta 300
gcgaatcgtc gtttattgga tttttataa tatactgtat atttgctttg ttgtttgtcc 360
gatgatcaac tttaccagtt gttcactcat ttggaagcct tgcacgaaca tttatggaag 420
ttagagaaaa atggaaaatg 440
```

<210> 910

<211> 264  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-H7  
  
 <400> 910  
  
 cacgcgtcag cgaacgcgtg ggggtgtgtgt ggggtggtgat aaaaaaaagg cacccaaagg 60  
 atccaaaagt gtaccgcgtt ctggaaaaaa gccatttgg aaagcagaag agaaaaaagc 120  
 caggggggata cgtgcagaat cttacagtat ataggggggg aaagtgttca aacaagtcca 180  
 tcttgacact ggtatatctt ccaaaccaat gaccatcatg aattcctttg tcaatgatat 240  
 atttcaaagg attgcttctt agtc 264

<210> 911  
 <211> 330  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-017-Q1-E1-H9  
  
 <400> 911  
  
 atcgacattt gtggtggaga cactttcaaa gttcccttgc acaaagtcct tttacgagtt 60  
 ttcttttagc aatatttgct ggtgcaacca cttattttgc gggagatacc ttttataaaa 120  
 cggttaccgg ggagttggac gagtcgattc aacagcgaaa agagttttat acgcaaagaa 180  
 gagaagaaac cacaaaaaag ttggaagctt tgggagtcgt cgtggacgga gatgacagaa 240  
 acacatcttt ataaggaaac tttggtgata tagcttccaa atattttttt tttacacaag 300  
 taaaacagtt caaaaacaaa acaacaaaaa 330

<210> 912  
 <211> 264  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-018-Q1-E1-A1  
  
 <400> 912  
  
 agatgtgttt gtggtgggaa gattgacgac aagcaaaaga acaaaggaaa aggagggaag 60  
 aatcgtcgtc gaggaagaa cgacaatgaa gaacaaaagc gggaacgggt gataaaagaa 120



cagggccaag aatatgcggg ggtgactcgc atgttgggaa acggacggtg tgaagcctta 180  
tgtttcgacg gtactccaag gctatgccat attccaggga acatgagaaa gaacgtttgg 240  
attaatgccg gagatattgt tttta 264

<210> 913  
<211> 336  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-018-Q1-E1-A11  
<400> 913

cacgcgtccg gttctagata gcgtgataat atccccctttt tgtttgttta tcgtttgtca 60  
aagtttggtt gttttcttgg tagcagttgt acattcagga tcggcaaagt ccaaaggag 120  
gaaagagaga tgggggtcaaa gaaagaagcc acaagtaaac ctgcagcagc agatgctaca 180  
aagacgacag aaaagtctgg tccggaagcc aagttgaagg gaactggtgc aaagaaacaa 240  
taaaaagttg actatgcatg ttctgttat gttttgtgag ttctgtttta tattttccag 300  
ctattctttt ggtagtgaat aaagagaaaa tttttt 336

<210> 914  
<211> 369  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-018-Q1-E1-A12  
<400> 914

acccaagcgt caaagatgct gtcaaagata ttgggtcggt gttagattgg atagataagc 60  
agccatttct agacagcgaa cgaattgcac tattaggagg ctcttatgga ggatttaggg 120  
ttctttcgtc ggttatcgaa tatggcagga ggattcggtc tgctatcgat atggttggaa 180  
tcagtaactt tgttagttac ctgagaaaaa cttcagctta tcgaagagat agccgaagaa 240  
aggaatatgg tgatgagcga gatccggaaa tgcgcaagtt tctcttgtcg atacgctat 300  
tcattctttc tcaccttatt caagtgcctc tttttgttgc agctggacaa aacgaccctc 360  
cagtacctg 369

<210> 915

<211> 351  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-018-Q1-E1-A3  
  
 <400> 915  
  
 agcccacgcy tccgcccacg cgtccgctcc caaaattccg atgtactgca ctgggattcc 60  
 aaagtgtcgy gcaaaaacag cgatgagata aagatatata ctcttgggta gccactagc 120  
 tgcagataaa aactcgggt agcgtctgtt ttcatcatcc accagagaat cctctctcaa 180  
 aaaaattcct agatattctg ctgccagact ttttcaaggg aaaatcttcg ccgaactttt 240  
 ttggcaacaa aagtgaagaa gcaacttcca ctgatgattt tcttcgtaa aattttcttc 300  
 tccgccaatt tcaacctttt tccccagtaa ctctgaaact ttagtttcca a 351

<210> 916  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-018-Q1-E1-A5  
  
 <400> 916  
  
 ccacgcaacc gcaaacggt ccgcccacgc gtccggtcat ttggtgagca agagacctca 60  
 ttgtgtgtgg cacatggcta ccaagatagt attaaagagt ggtggtacct tatggaacaa 120  
 actatggtct gctgcaagta cccgttcttc cgttacgggg tctcctcaag ggttggcaca 180  
 actgcatacc tcagctcgcc cgtcgtttta agtgcaagac gctgatttta tgcgttcgga 240  
 tcgtttgtac aagcttgag tcaaaccccc taaaaagtgg aaattgctac tcttttactg 300  
 gacgtttgtg tccactgcac tattttttct catattcgtg ggttggtatt ccaacagaaa 360  
 ggctggaatt tggtagcaag ctttatttcc ataagatata tagatagatg gatataataa 420  
 tatatgtccg tttgtt 436

<210> 917  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-018-Q1-E1-A6

<400> 917

ccacgcgacc gcaaagaatg agacgttggc ttgggaacgg aaacttgaca aaacaacaaa 60

ttttacaact tgttgctcat agagatcctt ttctctttgt tgactatgct attgaaaata 120

agataggtga gagtggtgtt gcagtaaaac aacttggggg agaagatggt cctttctttc 180

gccacaaaca attggagttt atgggtcaag caggttggtat actagtcaaa cagtgtccag 240

aattttcgga aagttttccc gtctttgttg gaatgaaaga cgtttggttg aaagtggaaa 300

tattggagcc aggcgtgact ttattttgta aagcaaagt gaaaggacat ccgagagaaa 360

gatttggtat agtagaaacc gttgcttgga agcaatcttc ggataaaaca acattttgtt 420

ctggagaac 429

<210> 918

<211> 455

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-A8

<400> 918

ccacgcgtcc ggaggacaag caggcgactc cttgtgtggt ttacgaaaag catcttatga 60

gaaaagataa taggaaagaa accaaccaaa caatgtttgt ggtggtatcg aaggatagtt 120

tttattgccc atgtggtaga aaaagttttg tatctctagg aaataaaaag tttttatttg 180

cacggcgtgt attacgagaa agaagttggt ggaggatggt ttccaaagac tcggtacaac 240

caccatcaac accttctttg gcaatagaga aagaagaaga tatggtggcg ttgaagaaac 300

aaagaatgaa caagatagaa gatttatttt cagcgggttt cagcctttt gcctatcgat 360

ggaacaagac acacagtgca ttgcaattac aaacaacgta cgagtacttg tctccaggcg 420

aacaagatac cctggtagaa atatcttttg ctggt 455

<210> 919

<211> 356

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-A9

<400> 919

acccacgcgt caatgtgggt tgtggagtat gtgcgcttgg caacaaacta aaacatggca 60  
 agaagaatca tcggagctta tatgtctgac gctactgtag cgtctctatt tagcatgggg 120  
 atgtttgttct accttacaat agttgcgggc tctatcacta ttgtgggtct tatgggtaag 180  
 agttccgacg gtatttgggt tcacagtgtt ccagcgaaag atgaatattg tgcacacaag 240  
 tcttccttc aagtaaacta ccactgcata gcttcttatt gcaagtatat catggctgta 300  
 tcttttattg gtttgggtat cagcttcttc gagttttggt atgcattcct ccgaat 356

<210> 920  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-B10  
 <400> 920

acccacgcgt cagcggacgc gtgggggttt attgcgacgc caaactgtct ggaaagcact 60  
 taaacccttg taccacggtg gaacactagg tgaaatacaa aacgggggtat ttgcaagga 120  
 taatatttat aataaaacac aaggtggtgg tccaaagcct tctgtaactg ggaaaccagg 180  
 aaaacttgat ttctcaaagg gaggtctcga agccggtcag gcacaaaaag aaggcaaagg 240  
 aggagtggct gtaaaagtga aacctaaagc taaaaccaa aaggagaaaa aagaagaact 300  
 ttattatatt tggcgagttt tgttgcacaa tgacgatatt cacacttttg actatgtgat 360  
 aactgctaac gtaaacct 378

<210> 921  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-018-Q1-E1-B11  
 <400> 921

acccaagcgt caagagtttc ttnggttcga ctccaaacta gtaagcttaa agagactggt 60  
 ttgtacata gtcgagcatg gctgggatca cttcanagtt gtcctggat ttattggac 120  
 agctccggtg ttacagtctt tgataattgt aggatcgggg aaatctaagc aagatgctgg 180  
 tgcagtgaca caagcaaata aacattcaac aatcgaagcg aaggatcatgc aaacaaaaag 240

caaaaacatg aaggcagttt cttcgttagt tggctcagta cgacaaggcg agtttgattg 300  
 gttggaattt ttgtttacat attgtaacct gacggagttt gaagctcgtg aatgtagtga 360  
 ta 362

<210> 922  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-B6  
 <400> 922

ccacgcgtcc gaaagcagcc agcgggaagag tcatgttggt gtgttttagta ccgaacaatg 60  
 tctatggtta tccctgtaaa aggcacaaaa tatcgctata tcgctctccg aatagcacaa 120  
 gaaatggctt tttcaacgat gacacgagta gttggaggag gcgttttacc tacagacgtc 180  
 atacagacac aaggacctta tggaaatcag ttgatactca ttctgtaaga atgacgagcg 240  
 aacctgacaa aggacaggag tcattcttgca acggagaaga cattttgcag tccattctga 300  
 aacgtaagga agtggaagtt gctcttttat aggagaagct ttccagtga tccagtgaga 360  
 atccaattgt gaaacgctta gccatggacg gttcttttga accaaaaaat acttttaatc 420  
 cgctctgaaa aaaccaaac 439

<210> 923  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-B7  
 <400> 923

ccacgcgacc ggagaaaaga agagagtgtg aggcggcgctc ataataaaaa tccgaaagga 60  
 gtagaagaaa agagagagaa gaaagaaaag aagagaaaag ccgtactgaa gaccgacaca 120  
 ggtacgcgag gagaaaggag acccaaatta aggtgagagg ggggacgata aggaactagg 180  
 caaaaggata tggtatctgc ggtagaacat atgaaagaag cagcaccgac tgttttagcaa 240  
 aaacacagca ctctgcagaa aagagaaaat gtaaagtata cagtgtgcgg cctgccaaat 300  
 agtagagaag aaatcgatga aagttttttt tagtaaaaaga tgaggtatag agaatggcgg 360

gt

362

<210> 924  
<211> 344  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-B8

<400> 924

ccacgcgacc gcaaacgcgt ccgagaatgc actcgaccaa aatgtgaaca agtcgaatga 60  
aatattatgt tctttatgga acaaagggtta ttctgcgttg gatatagtac aaacgctttt 120  
tcgtaggggt cgtagtcacg agatggatga gcagttgggg tcttcaagtc atgaaagctg 180  
ttgggaagac gcatatgaaa gtaatggaag gctgtttcag ttttaataaca ttgactgcgt 240  
tgacaggcat tctttccgc gcaactgagt ccacgattaa ttgaacaacc aaaaaagca 300  
ccagtaccat taagcaatac tttttttttt tttatcata ctgt 344

<210> 925  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-B9

<400> 925

acccaagcgt cagcccacgc gtcgcccac gcgtcagccc acacagtcgg tgcatttctt 60  
ttctatcttc gccctcgga tatttggtta ttctgacgtt caagcgtgcg agtttgtggg 120  
agcgtacaca gtcgataga aagggcaggg gttatctaag aaacttttca acagcacttg 180  
catatcgctt tggtcatatg agcagtcac aagactcagc tagtatgaat aacttcaata 240  
ttgctctttg tcaaatccta gccacggata ataaggaggc aaatatacca aaagccgttt 300  
ttgtcttttt ataaagctgc tacaacggga gccaaacttg ttgttcccc 349

<210> 926  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C1

<400> 926

agcaaacctc aagtggatca ttccacgttg gaaaagatag acttgtctca aggcagcttt 60  
aaagtactcc aagactgtga caaagattta gaatgtgatc ataataggag agtttcagtt 120  
ggaacttatt cagtatgggc gcttttcacc tggtttttgg acgagagaaa atgttctgct 180  
cttctatttg gagctcgtgt caggtgtatt cataagggac actctctacc ttttctacaa 240  
caaaggtgaa gaacatttgt ttgcgagttt aatgctgttg ttggagacac aattctcact 300  
gtatgcagac ataaaaacaa actgggagaa acgacacttt atcgttggcc tcatcgtcac 360  
gtctttgtgt g 371

<210> 927

<211> 352

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C10

<400> 927

acccaagcgt cagcgttatt aaaagatgat gtgttggtga atagaacaag agtttacaag 60  
tcataaaata aatcgagttg gtggcacaag ttggaaacaa cgtgtatatt tcggatttgg 120  
tategttgtt ttatggttgt ttgtattggg ttggcctatt ctgggtactcg tatggagtgc 180  
tatacttgta ggtcgacaac acgtttattg cgatgaaaac ttggcagatt tggtaatggt 240  
ttccgctgga ctttggttgt tattgggttt ctattctttg gttcttttct ttttcatggt 300  
tttatgtgga gacattccac accctagtgt agtgagtagt ataggatttc tt 352

<210> 928

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C11

<400> 928

acccaagcgt cagaagctct tccttatatt ctttgtgctt ggaaaatggt tgcaaagact 60  
gctctgagtt gcctctttct ctctttcctt atcgctgccg cagttgcagc cgacgtgggt 120  
tcagaggaga gatggggata tggtcagggg acccaacaac agcaacagtg ccaacaagta 180

tgtaaacagt atgcatacta tcagagtcca gtctgcactt ccgtaaccac acagagccca 240  
 tactggaccc aatgctcgaa gactgtgcaa acctttgtcc caagccagtg cagtacttat 300  
 attttttctc ctacatggac ctattgcagc acctacacca ccacta 346

<210> 929  
 <211> 241  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-C12  
 <400> 929

accaagcgt cagcccacgc gtccgcccac gcgtccgcac aagacacgca ggtttatacg 60  
 gtggagcacg ttgcaaagca ccacacacgt aatgacttgt ggattatcaa acgaggcagg 120  
 gttaaagaat tttcctccct tttagaaagg caaccttgtg gcgaacaaat acctttacaa 180  
 taatcaagtt aacaacggaa ccttgaattt gacaaggcaa ggcacccaaa acaaacccaa 240  
 t 241

<210> 930  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-C3  
 <400> 930

aggtggagcc ttgaggatga atcaagtgat tactaagttg tgtgaaggaa ataaaaatatt 60  
 tgaatgaaac agtcgttcca gttcaacttt cagccaacaa cgaatgggaa taataacagt 120  
 catagccata atcttagggt ggaacaaaac atcaaagact tgaatattgt acctagcgac 180  
 agcttattcg acgtggatac ttgttatgat tccgaaaagg ttgttatcca cgattgcctt 240  
 actttatgga agagaaaatc gtccaacctt gtcagcaaat attttggagt tgatcatgat 300  
 gttataaggg gtgtgtatga aggtggcttc aagctttggg 340

<210> 931  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-018-Q1-E1-C5

<400> 931

cacgcgatcc gaatgacttc agcgaccact tgaacgcctt atcaaaaaat actcttcgca 60  
ccctcatgaa tacatccacg acaagagtca taaacttcct tccgtcggag cgtgtgatgc 120  
agggggagct tcctgcccgc gtcactaaaa tagtaggggg actgatcatg tcatacacac 180  
tcatccacag gacattccca ttgtaccagg gttaaacaca tcaccctgac agttttccgc 240  
ctaacgatca tattctagca ttactcacta ctacatccc cactctactt catgctctat 300  
tcaaaccata catgttcctt ttttttt 327

<210> 932

<211> 188

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C6

<400> 932

acgcgtacga tagaaatgta ttctcatct cgtggccaaa cataaaacaa agtgtttaag 60  
tattccaact atcggtatag gagctggaaa atatacttca cgacaagttt tagtatatca 120  
cgatgggatt ggaatgttac aacatccaca tcatgcggga gttaccccaa agttttgcaa 180  
gaaatatg 188

<210> 933

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C7

<400> 933

cacgcgtacc gaagtatttg catctttttg gactttggat ttgcaagtat ggggtgtgctc 60  
attcagaact gcttctcagt tagttacgca atatgcctag tcataaggaa caaaataaag 120  
gaagtggaat atcagctgac ggttacgcac taaagtggag cggatttcgg ttggacgtat 180  
acagcagttt ggtcactatg gtggacgcag acgacctcag agccctcatg ttttaaggaaa 240  
gcctcaagga aaagtcaaag ctgcatgacc caaaattttt caaatctat tatgacgaga 300

ataaggacta cttttactat ttttttcttt ttgataataa aatgtttctt tctctggaag 360  
 ttgcaccaga atatacctact ctggtgggaa actcgtttct gcagaaat 408

<210> 934  
 <211> 318  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C8

<400> 934

ccacgcgtcc ggatggtgac cattgttctt gaggatgcc gacaaaagag ttgttctccg 60  
 tcgaagacac cttataata caagaagtaa tcgaatcaaa aaagtgagaa ctcccggagg 120  
 gagacgggtt gttcaatata cgggcaaaaa gggaaagggt cctagatgag gagacactgg 180  
 gaaacccttg caaggaattc cagctttgag accgatagag tatagtagaa tatccaaacg 240  
 tcaaaagaca gtcaatccag cttacggggg caatttatgt gccaaagcag ttcgagaacg 300  
 gattcttcgt gcgttttt 318

<210> 935  
 <211> 276  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-C9

<400> 935

cacacgtccg ggatgaacta ggcaactaaa aaaaagcact aaactaaca agacaaagga 60  
 aaaaactgag tatcacgaac aaaagaggga ctacatgagg aaaggggcat caaggaacta 120  
 taagtacgag aagggggaat gtcaatgaaa gcacgaaact attttaagaa cacagtgtaa 180  
 aacgcgtacc ttttcataa tgcctaccg actcaaagag gaagcacaaa gacacacaca 240  
 gaactatcca cgtaagaccc taagccactt catctt 276

<210> 936  
 <211> 359  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-D10

<400> 936

acccaagcgt caggggttttg tttgacatga tttcgaagct gaaaaaaaaa gctcgagcac 60  
caacagagca agaagtggag caggaagcaa aagacaggat ctatcgacgc taggaacagg 120  
gtgagctggt gcgatatatg tgggggttcgc ctgtgaaacc accaaactgg tggaagtcgg 180  
atgcctttca agaaaattat aagcaattgt gtcacagaca taagcagcgc ctcaagaccc 240  
ctgcagagcg aacgctataa gatatggaag aaatgtaaag acctagtagc ctttggtact 300  
ttttttagtg agtaacaatg gtgttgcaac cagttggagt ttccttgttc tatgagcac 359

<210> 937

<211> 347

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-D11

<400> 937

acccaagcgt caggcaatac ccaatgcggt tctttccaag ttaaaaaacc acaaagattt 60  
gggtgttcat acggaaatgt ttagtgatgg cctcatagat ttggtggaat gtggggcagg 120  
taccaattcg aagaaaagcta ttaatccggg gcgcattggt tcagggttttt tattgggcac 180  
caggaaactg tacgattttg tcgatcgcaa tccactcatc acgatgcacg atattgcatt 240  
tacgaacaat ccagtcgtta tcgccaaaaa ttccaagggtg acagctatca attctgctat 300  
tgatttggac ctcacagggtc aagtacttag cgatagcatt ggaacca 347

<210> 938

<211> 454

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-D7

<400> 938

ccacgcgacc ggagtgttgc tgttgcaagg aggaggagga gctatgatga gttctcagac 60  
gattgtattc tcgattctcg ttggtgtatt atttggtgcc ttgtcctata ttggatatca 120  
tcggggaaag aaaccgagtg gtccctctaga ccccgaggag atacagagag tttccgctcg 180  
tcgaaaagac agttgtttcg cacaacaccc gaaagtttcg gtttgcactt cccaactcgg 240

aagcaacgct caacttgctt ctgggaaagc acgtctatgt aaaggcaatc gtagataaca 300  
 aggaagtatc cagactctaa acttttatct ctcccaaaga aaccaaagga tatttttgagc 360  
 tcttgatcaa ggtttatcca gcaccttttg ggaccatggt cactgacctg gattccttaa 420  
 agtgtgggga cactgtcttc cttcgcgggc caaa 454

<210> 939  
 <211> 322  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-D8  
 <400> 939

ccacgcgacc gtaagagggg ttggtcatttg ttgagctgaa gagtcaatga acaagcttca 60  
 gttgctatac gtaaccaaac aagctgtttc aaaagcatgg caaagagaac agaaaagggt 120  
 agactgggag aagaaatcat ttgcagaagg aactttggga gagcaagtgg aatgaaagac 180  
 aaactgcaca agagagcgcg tactttaatc ctgaagatga gcacgcagta caaagggttag 240  
 caacgaaact tcggcagcaa attgagccat ccgaggaagt actcccccaa caaagaaaaa 300  
 gcgtggcaaa aatcctacaa aa 322

<210> 940  
 <211> 343  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-D9  
 <400> 940

acccaagcgt cagtgggaaa gagaggaatt ggaaggcgat tgaatgccga aagagcctac 60  
 acacacaaaa gtgttttgtt gtataggtta ccaattcttc ttgtccatg tcgaaacggg 120  
 aaacagctac cgttcgttct gcagtagcgg ggatttttaa agagtcacaa gagaagaaac 180  
 gcaactttgt ggagaccgtg gaactccaga taggactcaa gaactacgat accaaaaagg 240  
 ataagcgttt tagtggttcc attaagcttc catatattcc aaaacctaaa atacaagttg 300  
 catttttatg agacgcaatt cactgacaac aagcacagga act 343

<210> 941  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-E12

<400> 941

acccaagcgt cagcccacgc gtccgacgga aacgatgta ttagtatcga ttttttgggc 60  
atattatcac agtagtttga gtccatcagt agagtttagga ggagtatggc ctccaagggg 120  
gataaggggtg atagaggtat gggagttgcg aatgttgaat acgttggtgt tgttattgag 180  
tgagagtaaca gtgacatgga gtcacgagag tatgaggagt ggagagaagg aggagatgga 240  
gaaggggtttg atgataacga taatgttggg gataatattt ttgatgatac aaggatatga 300  
atattatgaa tcacagttta ggataacgga tggagtatat gggagtagcg aaacaa 356

<210> 942  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-E2

<400> 942

agcggacgcg tgggttattg agtaatgttt taagggttag tagggatata gataggattg 60  
taaagagggga aattcctgta agaaaagtac ttggtgcctt gtatgcggct atccaatcac 120  
actttaaccg gacacgtggc acacaagcag tggacaacaa cttgaaagaa agtcctgcc 180  
cttacaatct gtccttgctg ccggatagta atgggttggg tcctaaaagg ttttataaac 240  
aagttgacgt agtggaagaa atacctaaact tgcactgtgt ctccttggac gggaaactgc 300  
ttcgaacgag aacaggaaag tttctggaaa gtcgctgtcg agagctgtcc ctagtggttag 360  
ctagtgaatt ggaaac 376

<210> 943  
<211> 319  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-E5

<400> 943

ccacgcgtcc ggatgactag acccagtctg ttgttgcaat gaaactcatt ctgtatactc 60  
 tgttttgtgtt gtctactgta atactgacaa ccagagctca acctatgact cctcctactc 120  
 ctccggcttt gaacgactgg aagcaacagc tagaggaggg gattccaaga caatataaac 180  
 gctctgtgca aggaattttt gacaatatta atcgaccagg cacagcaaag ggctgtattg 240  
 tagcagcaga ttcaaagaaa caaccggact attattataa ctggattcca gatgcagcaa 300  
 taactatgca agtaattgt 319

<210> 944  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-E6

<400> 944

ccacgcgtcc ggagctcttc cttatattct ttgtgcttgg acaatgagtt gcaaagactg 60  
 ctctgagttg cctctttctc tctttcctta tcgctgccgc agttgcagcc gacgtagttt 120  
 cagaggagag atggggatat gctcagcaaa ccaggggga gcaacagtgc caacaagtat 180  
 gtaaacagta tgcatactat cagagtccag tctgcacttc cgtaaccaca cagagcccat 240  
 actggacca atgctcgaag actgtgcaaa cttttgtccc aagccagtgc agtacttata 300  
 cccaatctcc tacatggaac tattttttta cctacaccac cactatcgta ccattctaat 360  
 gcaacaaggc cgtgaccac 379

<210> 945  
 <211> 322  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-E7

<400> 945

ccacgcgtcc gaaaagctca gcttgaagaa caaagaactt gcgtggagtt ggacgttatt 60  
 tatgaacttg gactctattg acacaggaat taatgtcct tttgaccgt ttgcaaactc 120  
 ctcacgtgga gaggacgcat cagtaaccaa aaatatgggg catattcgct tgcaacaaag 180  
 aaacggccgc aagtgttga cgacgattca agggcttgac acaaaattgg atttgaataa 240

aattacaaag gccttcaaaa aggagttttg ttgcaacggt tgtgtcctag accacgcaga 300  
actgggaaga atcatccaac tt 322

<210> 946  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-E8  
  
<400> 946

ccacgcgacc gcacacgcgt ccgttccacg tggggaaatg caattaaaac agttgctatc 60  
ttcctcacia cgcgaggacg actatgcacg tacttttgac aacaaccatg tttctggata 120  
ctgggaggaa aaacaaactt ctcaaaactt aattgagggg tcaccttccg aaacggaaca 180  
agttacgggt gaagaaacca acgcccccg ccatggtggt caacaacaac atcaacaaca 240  
aaacgccaaa agaaagtcaa aacgtactat ttaaacgaaa ataagacatg accgaactca 300  
acctggaaga cttgtttgtc cttttttttt tgtttccaaa ccaaaaaaca atcttttgac 360  
gaatgctgac ctgttataca gtacgacccc g 391

<210> 947  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-F2  
  
<400> 947

agcgcagctg ttgcttccat caagacgaag cgtactattc aatttgtaga ctgggtgtcca 60  
actggattca agtgcggtat caactatcaa gtcctatctg tgatcccgga ctgagaattg 120  
gctaaagtcc aacgtgcggt ttgcatgatt tccaacagca ctgccatctc tgaagtcttt 180  
gccagaattg atcacaagtt tgatcttatg tacgcaaaga gagcatttgt tcattggtac 240  
gttgaggaga gtatggaaga aggtgaattt tccgaagcac gtgaggatct tgccgctctc 300  
gaaaaggatt atgaggaagt cggcatggat tctaacgatg ctgaaggcga tgaagagttt 360  
taatgctctg caaaaatccc tt 382

<210> 948  
 <211> 209  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-018-Q1-E1-F7  
  
 <400> 948  
  
 cacgcgaccg caatcgcgctc cgcttcccgc cgccctttta ctttaaaaaa actctgttac 60  
 cttaactctg actacgacgt tcctatctgg atcaaagcaa gtccacctgc gaccgaatat 120  
 ttteggggaca caagtactcc acaaggggaa agaggagcct tgggtgacgat tattttccaac 180  
 ggatcaaggt tccctgacga tgttacctt 209

<210> 949  
 <211> 368  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-018-Q1-E1-G10  
  
 <400> 949  
  
 cgtcaggtta ttgatgcttg tactgtcttg ttaacaagca aaggagacgc tgttctttcc 60  
 acgcaaacga ttcagaaaga gttgggacga ttcggagata ttgagcaaat ggtattatct 120  
 caagatgaaa gacaggcggtt gggaaaatat tccatcgatg atgctgcagt gaactgtctt 180  
 ggagttgtga atttaccaga ggaagccgtt gcttgtgtat ttactgttcg tatggctaag 240  
 cctcaagacg cgagttttatt ttgtgctgtg gaagaacatt gtgccgacta ttttttgttt 300  
 aagtagtcac atagaagata gttttgtgga ttcctgtcat cgaccgttga tagtttatga 360  
 cgaattttt 368

<210> 950  
 <211> 346  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-018-Q1-E1-G11  
  
 <400> 950  
  
 acccaagcgt caggttggta acggatgaac ctggttatta tgaaaacggt gcttttggtta 60  
 ttcgaataga aaatgtattg ttgggtaaga aagtggaaac accgaatcaa tttggaggag 120



agccttatta tggtttcgaa caggtaggt gttgttccta tggaaagtag attgatggac 180  
 ttgagtttat tgacagatga agaagtgact tggatcaata gctatcatga agaatgttgg 240  
 aacaaagttt cacctctgtt gaaagaggaa atggcagtcc attggctgaa agaaagaact 300  
 attttctatt agtgaacaaa taaatgttgt ttctatTTTT agtaac 346

<210> 951  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-G5  
 <400> 951

cccacgcgac cgcaagtcca ctgaacaatt attgaattta tatgaagact tggcaaagaa 60  
 gtttcctatt gtttcctttg aagatccttt ccatgaagaa gactttgatg gctttgcaaa 120  
 gatgagggga gtgttgggaa aggactatca aatcgtgggc gatgacttgt tggtcacgaa 180  
 ccctactcga ataaagaaag ccattgatgc tggtgcttgt aacgctctct tattgaagtt 240  
 gaatcagatt ggcaccttaa cagaatcgat agaagcgaat gacatgagtc gagcaaccaa 300  
 atggggagtt atggtttctc atctgtctgg agaaacagaa gattccttta ttgcagattt 360  
 gggtgttggg ttggaaactg gacagattaa gtcgggagct catgccg 407

<210> 952  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-G6  
 <400> 952

cccacgcgac cggaggtttt cccgtccttt tcgtatcctt ctgttaaagt atctcgtcaa 60  
 ctgttttcag gttttggtct tgcaacaatg gctgctgcaa acacaaagga actagaaacc 120  
 aaggtgaggg acaggctggg gcaactttac aagcagaggc cttgtatgcc aataatggta 180  
 agaatagctt ggcacgacgc gggaacatat gatgtgaata ccaacactgg gggagtaaac 240  
 ggatcagttc gttttgacgt tgaacagaag cataaagcca acgctggtct caaagttgct 300  
 ttggatttat tggctcccat cattttttga ctttcctgag atcagttatg ctgacctatt 360

ccaattacca agtgtactac ccacgagta tgcacgaggt cccacgattc cattccgca 419

<210> 953

<211> 332

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G7

<400> 953

ccacgcgacc gaaggagac acttccgcag cgctttccgc ttattgagca gctgcaggaa 60  
ttccttcgat tgtgttttta cccgcggata agatttcggt tgctcaactc gtccaacctta 120  
ttgcgggtgg cagcgtagtg ttgtcgttgg aactgaggt tgatggatgc atgaaagtcg 180  
ttcaacaagt cagcagcgag ttctctatct atttggcgaa ttctatgaat tccttgagat 240  
tagagggcca gaagacggtg gctatcgaaa ttgcacagca gtttgattgg caagtttctt 300  
gattgggtag tagttcctgg tgtttttttt gg 332

<210> 954

<211> 432

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G8

<400> 954

cacgcgaccg gactttagac aattgccacc ggaaggagaa cgcttacaac agtggagagc 60  
agaacaaccc gaaagaatag agcgaaagag gagagaagag gaaagtaaaa gggaggaaat 120  
tcgtggagct gcttccaagt atatttctga gttttggggg aaaagagctc aagatgtgaa 180  
cagaagaaag gaagagaatc gagcaaaaga taaagattgt tacaaggacc aatttgttga 240  
caaggaggac gaggtggaac ctgccgaggc ttttgactat gttttgggag gaaaaggccc 300  
gcgtttgtcc gcacgaacgg attcttttta tgatacaagc tctggtagaa ccaggacgca 360  
gaaagaattg aagagaatgc gagagtcgat gcaaagctat aaacaacacg tggttggtga 420  
ataagagaca cc 432

<210> 955

<211> 355

<212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G9

<400> 955

accaagcgt caaagagaag aaagaaaaga agagaaaagc cgtactgaag accgacacag 60  
 gtactcgagg agaaaggaga cccaaattaa ggtgagagaa tggacgataa ggaggtatgg 120  
 agaaaggata tggatatctgc ggtagagcat aggaaagaag cagcaccgac tgtttagcaa 180  
 aaacacagca ctctgcagaa aagagaaaat gtaaagtata gagtgtgcgg cctgccaaat 240  
 agtacagaag aaatcgatga aagtgaaagc gagtaaaaca tgaggtatac agaatggcgg 300  
 tcctattatt atggatccaa aggtagcgaa gtaaataagac gtttgaaagg cgtcc 355

<210> 956  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-H11

<400> 956

ccacgcgtcc gtgtgtccga aattatttcc aaaaataaat aaatggatca tgttctttat 60  
 tgaaaaaac aaaaacacac aaacacaaa aaaaaaagg gacccggacc accaaacaac 120  
 caccaacaca gggcacgggg accccccctc aaacaccccc cccacacccc ctccccctcc 180  
 atcacccac ctctctccct cctccccctc ccccctatct cctcctccc cctccttctc 240  
 tcccccttc ctcctccctc cccccctccc cccccaccc ccacctcccc cccccccct 300  
 tttttttttt ttttctcccc cccccctc ccttccccca ccttcccccc cctccccccc 360  
 tccctattcc cccccccccc cctccccctc ctcatctct cccccccctc tctccccccc 420  
 tccccccc 428

<210> 957  
 <211> 456  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-H5

<400> 957

cccacgcgac cggagaaata agatgaggat ggatgtcgac caagagacga caagtggaaa 60  
gcgttggaa cagcataagt ttcaagctag tgggtgggtggt agtgctcgaa ggagtcaagt 120  
aactcgtgtc caagtcacca acttggcact cgggtgtgagg aacaaggata tcaacgtaag 180  
cttgtctctt tattcatttt ttgtggctct ttggaggggtg ttgttggttat ttaccattgt 240  
atactggaaa attgtttggt tccggaatat ttcgttgtac ttcgactgct tacatcaccc 300  
tcctccttct ccgcctcttt ggtatgcatg acgttttcgt tcctcacctt ttgtttcagg 360  
acctcttttc tgaaattgga aagttgcgcc aggcctttgt aaagtttgac agaaacgtcg 420  
ttctacgggc agtgcagaag ttgttttcaa cgaccg 456

<210> 958  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-018-Q1-E1-H6  
<400> 958

ccacgcgacc gttagaatg gaccgtgcaa gggacaactt gaaccacatt taccaagtga 60  
taaacgctta tgcttcaaaa caagactatc cacttgtaca acttgtcatt gctcttttcc 120  
agtctggaca ccttcgttcc tcggtaatca acttttagga cccaaagttg gctagagctt 180  
tggtatacat aaccctagct ccataatat ggaacatatt ggctagggtg gagtatttct 240  
tcacatcat cagtttctg tttcgtggaa aaagaacagg atgctacgct ttggcgctat 300  
ggatcgctact ctttagccta tatttttacg ttttggtgat ggaagctatt caggcacagc 360  
ctactctcaa gctcttggaa cacaccca 388

<210> 959  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-018-Q1-E1-H8  
<400> 959

ccacgcgtcc gccaacgcgt ccgcgggaac agacagctac cttcttgatg aacagctggt 60  
cttaggaaac tcttctgagt gaagtcaagt tcttcttctc cgtctaacgt tcgtattgga 120

gggctgggac gttcctggct gaaaggcttc tccgtagggc taactttctt cagcaacgct 180  
 atttcacctt ataaattctt tacctttggc tcttcttggg gtgaactgct agtgtccttt 240  
 tgatcctcct caccgtaacg gctgttctgg atcgaagagt tctccacact actactattg 300  
 tctctgtggg ttaaacagtc ttatttatct tgcagtatat acctgctgct tggtttcagt 360  
 aaatcatcat ccacagtttc tttc 384

<210> 960  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A10  
 <400> 960

cccaagcgctc cggggcgctcg tcgactaggc ggtgtgaaga ataaatatgg gaagaagacc 60  
 ggcaagggtgt tatcgttata tcaagaacaa accatacccc aagtctcgtt tctgtcgtgg 120  
 tgtcccagac cccaaaatac gaatttatga cttgggtaaa aagaaggcag gggttgaaga 180  
 gtttcccctt tgtgtgcatt tgatttccga cgaaaaccag caaatatctt cagaagcgct 240  
 ggaagctgct cgggttgctt gcaacaagta catgacaaag catgcaggga aggatacttt 300  
 tcacataaga gttcgcgccc atcctttcca cgtcattcga attaataaaa tgttgtcgtg 360  
 tgctggagca gataggttac aaactggtat gcgtggtgcg tatgggaagc cgcaaggaac 420  
 ggt 423

<210> 961  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A11  
 <400> 961

gataggggtt gtgtgggtgc gtcgtcgtca aggaaggag agtaaaagaa gatggtttcc 60  
 ctcaagttac agaaaagact agcagcttcc gttctccatt gtgggaaaag aaaagtatgg 120  
 ttggatccca atgagacgag tgaaatatcc atggccaact cacgtacgta tccttgtgtt 180  
 gtttttacct tttggtgaac tgtgtccaaa ttatgatagg tcagaacatt cgaaaactag 240

taaaggacgg attcgtcata cgcaaaccag taacggtaca ctccagggca aggtttcgtg 300  
 ttcgattaga ggcaaaacga aagggtcgac atagaggacc gggaaagcgc aaaggtacta 360  
 tgaacgcacg tctgccgcaa aaaaccgtgt ggattcacag aatccgagtt cttcgcagac 420  
 tcttgaagaa atacagagac cagaac 446

<210> 962  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A2  
 <400> 962

cacagctcaa cctatggacc ctcccactcc tccctccttt gaacacgtga agcaacagct 60  
 aaaggaatgg attccaggac aatatacacg ctctgtgcaa ggaatttttg acaatattaa 120  
 tcgaccaggc acagcatagg gctgtattgt aacagcagat tcaaagaagc aaccggacta 180  
 ttattagaac tggattctag atgcagcaat aactatgcaa gtaattgtaa gcatgtatga 240  
 gagggcaaca gatcccaaag agatcgatag actggagact attatcaagg aatacatagc 300  
 gttaaatacac aaactacaac atactccaga ctacaatggc aacttttata cagatggttt 360  
 aagtgtgtgt catttttcgag tacatggaga tgcatactct ggaggatggt gcattgaaaa 420  
 tgat 424

<210> 963  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A5  
 <400> 963

aggtcgcaaa ccaacttatc ctgttggcaa gatgttggct tatcgtcgcg aaaaaacatt 60  
 atttgtttcc tcgtttacac cttgttctca cgccaaattt ctgtcaagta taagaagaac 120  
 gaacctttca atttgttaga aaacaaccag caaggagtgt ggttacgtgt tacgcatggg 180  
 cgcagataac ttgaagtttt ggaaagattt ttgggctggt ggctttcctg gaggagaagc 240  
 ttatttgaag gaggtgatag agagtaactt tcaaaagcca gttccaggac tcgatactag 300

tggagtaacg ggacaagggg aagaaaagaa agcagttggc aaccgaacac agcagcctgc 360  
 caaagcttct tcgggaaaag actccaaccc tccttcttcc aataatggca ctgccaaactt 420  
 g 421

<210> 964  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-019-Q1-E1-A7  
 <400> 964

agatagaact catgaatgag agaccttcgc ctgcagagag ccctaacagg gataatattg 60  
 tacatgcaaa ggttgacgag agtccgcagc ctaatgaagg cgatcccggg tatagcagtg 120  
 taagaacaga tcgcagagat acggaagaca agtctaaaca cacgcagaat gaaagccaca 180  
 acggattcga ttctgcctca cgcagaaaa agcattcttc aagacgttcc ttgagctcct 240  
 ttttgatgga gaaacttaca aaaattgccg ggccgaaaca agcgaatctc gggaaggaga 300  
 ataagtttta ttatgatgag aaactacgta catgggtctg tgacgatgga gatgagagca 360  
 acgaagaagt tcaacnnaca cgcactctag aacctcagat ggttcgcaac attcttcgca 420

<210> 965  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A8  
 <400> 965

ggttcttcga agaaagaaac ggatgacgtg gacagcgata gtgacataga ctcgagtggt 60  
 agtgacttgg aagataatga gaccagttgt cccgagcaag ttggtgcggt tgctgggtct 120  
 tctgtcgtga aaagcggcat ttttgtgtag agagtgtgta cagaggtttc ataccagccg 180  
 tgtctatttg tgggtgtgtg gtgtacatag ctgtctatgt tttggtgctg tgttggtctt 240  
 actttttgct ttgtgtgttc cgaacaagtt ttatcgttgc tggcagtata tatcttcac 300  
 gatggatgta tatatcccaa attttgtttc gcttaaatac tgtgcatcga tatacttgg 360

tcgtatgatt ggatatagtt gctttgtttt gctacaaaat acggagagaa taaa 414

<210> 966  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-B1  
  
<400> 966

cccaagcgtc cgattgaatg ggaacttggt ctattcatca tggttgctgc accttggcgg 60  
caacaaagca aaggggcaca gaacaagaat ttttgctatt ccagaaacaa gaatagaaac 120  
tgcgcgactg tgtttggatc ataaggggtca tatctttcgt agtcggtcgc aaagccaggt 180  
tctggttgtc gcctaaaaaa gcgttttcgt gctaaaagca caacaagcca gtcgtctggt 240  
gcttgctgga cgaccgcaga ctgcacagtc caaagtttta atacgactat ttcgtgaaac 300  
gattttgcc aattttttgt gaaaagcctc tagacgacta gagccgttga atcacgaagc 360  
ctctgcttca gagtggcatc tttcattgag cccactatan gactctccca acagaagcca 420

<210> 967  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-B10  
  
<400> 967

cccacgcgtc cggaaagagg aaaggtttac gagagaagga agtagaaaga agagagtgt 60  
aggcggcgtc ataatagaaa tccgaaagga gtagaagaaa agagagagaa gaaagaaaag 120  
aagagaaaag ccgtactgaa gaccgacaca ggtactcgag gagaaaggag acccaaatta 180  
aggtgagaga atggacgata aggaactagg caaaaggata tggatatctgc ggtagaacat 240  
atgaaagaag cagcaccgac tgtttagcaa aaacacagca ctctgcagaa aagagaaaat 300  
gtaaagtata gagtgtgcgg cctgccaaat agtagagaag aaatcgatga aagtgaagc 360  
gagtaaaaga tgaggtatag agaatggcgg tcctaacggt aaggatccaa aggtancgaa 420  
gtaaatagac gtttg 435



<210> 968  
 <211> 451  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-B11

<400> 968

caaaacttgt tcgcggtttc aacttttaca agctgctttt gacaaggcgg tttccaagtt 60  
 tctagaaaac ggctgttctt actctaagtt ttccgagttc ttccagcccg ttgcctctgt 120  
 ttatccagag gaatttgagc tgttgcataa acaactccaa caactcttag atataagact 180  
 aaagcaagaa tttcagttat tgctcgaaga taaagatatt gcaactaaac tcgagggtttg 240  
 cgaccaactc ttccaaacgt atcatgtgga tagaaacggt tatgtgagaa tacctttgaa 300  
 tgaacaaact ccatccgaat ggatcaaagc tgtagcagta aaacaaaaaac acaaattgaa 360  
 agaaacactc tgtgaggaac gggatgagtt gctcaaggct gtcaaagacc tcgaatgtaa 420  
 agtatccgac acgcgacaaa aaggcgacaa a 451

<210> 969  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-B12

<400> 969

gtgggatggt cgattgttgc tattgccttg ttaggaatac cttgggcttc gacgattact 60  
 gaaataagat tccttgggct atcctatctc gcagtttgag agcgcacgta cccgaaagga 120  
 tgggaatgta ttctactcta ttcaatgcca gtcaatgttt tccagaaatt ttggtttcta 180  
 ttgttgacaga gaaattattg gtcggtttta gtagacaaac gacgatattg gctatgggag 240  
 gtgtgatggc atgggttaggt tcctcgtgga tattttacgtt gtaatatcag ccacgctat 300  
 tctctttttc catatccaaa agtaacataa tacgctttct atctccaatg cgacgtattc 360  
 ccatatcttt caggtcttgt tccgtcatat gagataagac ttggccatca atggcatgat 420  
 caagaaatag ctgagaat 438

<210> 970

<211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-B5  
 <400> 970  
 cccacgcgtc cggtcgtgca acgttgattt tgttgtttct tcaacatagc cttgtgcaaa 60  
 gtgtgtcttg taaacggata caaactcaca aaaggctgag tttccagtgt ataaaacctt 120  
 ttcaaaagca gtgttttctc agtaatctta ttgataaagg aaaaaactct actcgtcgtt 180  
 ttacgttgag gcagtttgga agcatgagtg agacgggtgc ccgtgttcgt cagttgacag 240  
 agaaagggtgc caagggtgaa ggctggaatg actgttggaa ggcaggcttg acaccttggg 300  
 ataggggttc ttcattacct attctatgtg aactttgcaa ggaagatgcg tttcctaagg 360  
 gatatgcttt ggttccaggc tgtggccgtg gctatgacgt tttgactctt gcctc 415

<210> 971  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-B6  
 <400> 971  
 gcatgttatg cactttgttg taaagcaaaa ctggttcaag taatagaaat atgtagacac 60  
 ggggatcggt cgccactgaa cacttatccc aacgatccaa aaccttacca tctctggcca 120  
 ggaggccctg gacagttgac agctgaagga atgagagctc atttcgaact tggaaggcaa 180  
 cttcgccgac gatacgtaga ttcagggttt cttgaccaaa atctgtccgt caacgaggta 240  
 gcttcagctc cttgcgggtga agccgtccca tctgatattt ttatgggtgc tatagggttaa 300  
 agttgtatcc agcgataccg atcgtactct catgagtgtc tattgtcaga tggct 355

<210> 972  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-B8  
 <400> 972

agcggagatg tcttcgagag taaaggcaga taccacggag gcaagctcag agttaaaaat 60  
agttcttaaa agctctgata tggaacaatc aaagctggaa aagacttttc agatagccaa 120  
agaggctgtt tccaggttca agttggagaa ggatattgct gcatttatta aaaaagagct 180  
ggacaaaaac tttgatgtat actggcactg cgttgtcgga aagagcttcg gttcatacgt 240  
gactcatgtt agtggcgcac tcgectactt ctacgtggat aagcttgacg tgatgggttt 300  
caaagcatag catagcctta ataaatgac gttgatggca gttttgtaaa aaaaaaaaaa 360  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 420  
ggggggg 426

<210> 973  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-019-Q1-E1-B9  
<400> 973

cccacgcgtc cgcccacgcg tccggtagag gagcaagaag agaagagaga atgctgggtg 60  
gagtagcgaa acaagagaag ggaagtaaaa ggtaagaaag aggaaagggt tacgagagaa 120  
ggaagtagaa agaagagagt gtaaggcggc gtcataatag aaatccgaaa ggagtagaag 180  
aaaagagaga gaagaaagaa aagaagagaa aagccgtact gaagaccgac acagggtactc 240  
gaggagaaag gagacccaaa ttaagggtgag agaatggacg ataaggaact aggcaaaagg 300  
atatggtatc tgcggtaggc ttagaagcag caaaccagag aggaaagcgt taaagcatga 360  
aagaaaagaa atccgaaaaa gaagagaaaa aggtaagaaa gaggaccgaa tcagggtaaa 420  
ggaagag 427

<210> 974  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-019-Q1-E1-C11  
<400> 974

cgattccatg tgtctcctct cgaacttcac aaagtgttga ctagctatca atacagatat 60

ctataggcag acagaccgac attccgcaac gactgtatta tcctcccaaa gtgggttatgt 120  
 cttcccatg agctgacaac caaacatacc eggcaacctg actcttttct agaccatctc 180  
 tataccaagc caaccaatcg gtatgcaagt tcttcaacac cactctcaac tcttcacact 240  
 gcaacaaggc agtcaaacca ccaactacga cttcccatg tcttgcaacc ggggcattcc 300  
 caacgagata ctgtagttgt tgacgtacta gtctataata tttgatattg ttctgcttgt 360  
 tgctccagga ttcgttttca atgtcccaag tgttcttatt ttgccacgta gacaacctgt 420

<210> 975  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-C3

<400> 975  
 agctttacac gaattttccg tggttctcgg cacttgcatg agcatactgt tattgggtgg 60  
 ggtacttgga ttggtctatg tgctcttgcc tggattattg catggataat atcagaagtt 120  
 attccggtat ttaatgacct tcttggttta gtagcttcat tatttgcgtc acaatttact 180  
 tacggcttgt ctggttactt ttggttattt gataattatg ggaagtggcg tagacatccc 240  
 atcttgacag ttatcaactt acttgtgttt ggacttgggt tgactattct tggctcttgg 300  
 atgtatgcct cagtgaagag catcatagtt tcgtacccaa ctgggtcaagc aggtacgcct 360  
 ttcagctgct cttagaagag cgaaactgga gcacattttt cgtcacaagt gttgt 415

<210> 976  
 <211> 250  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-C4

<400> 976  
 cgcgtcagaa aaaaaaaaaa taaccgtaag aaaaaaagca aataaaaaaa aaaaaaaggc 60  
 aatcgggtgca agaaggatc aatgggtacta taggctcgac cctaaattaa gtcacggcta 120  
 agatcatcaa atgagttcag ttcacagggc atcacttgaa atcgtagctt cagggaaaac 180  
 cctagaattt tccaacttta tgggctggta acgtttggcc ccttcccaaa taagggaatt 240

tgcggaaaaa

250

<210> 977  
<211> 332  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-C6  
  
<400> 977

agggaatttg ctgatgatgt cctcgctatg tccttttttt tgtccccaag catcaagtaa 60  
attgtagacg tttataagcg atgcaactta ttaaagtttc tttcttgagt gcaaaaaaaaa 120  
aaaaaagaaa aaaaaaaaaa gaaaaaaaaaag taacaagtta agaacagaaa cttaatatga 180  
taatatgcag ttaaaaagaa ataaaagatg aatcaataaa aaaaaaaaaaag gggggccgcc 240  
caaaaggatc aaagggttaag taagggtgaa aggaaagtta aaacccttca aaaggggaaa 300  
caaaattcaa ttcaaggggc gttgttttaa aa 332

<210> 978  
<211> 266  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-C7  
  
<400> 978

agaaagtttg gttgttttct tggtagcagt tgtacattca acatcatcaa atgccaaagg 60  
gaggaaagaa agattcttca aagaaagaag ccacaagtaa acctgcaaca gcagatgcta 120  
acaaaaacga acaaaaaatt cgggccggga accaagttaa aaggaaacgg ttgaaaagaa 180  
ccattaaaag tttactaagc aagggtcccg tggttttgta attccggttt gataagttca 240  
agccaatcct ttgggaatta attaag 266

<210> 979  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-C8  
  
<400> 979

agcggacgcg tgggcggacg cgtgggcgga cgcgtgggtc tttgttttgt cttttgtagc 60  
 tgtttttctc gtagctcatg cagttcccgt tggagaagat gcattcagtt tcagtcagac 120  
 ttttggaat gcttctgctt caggcaacgc ctctgttatt ccagctacaa ccaagatccc 180  
 caagttagaa gtaactagta gtgcctcatc aaaggacaat ggaaaagcag ctcaagtaga 240  
 ctttgcagat tactcaaagg gatatccttc gcctagctat ttttacgctc cttcttacac 300  
 atcctatgtg gaatttcctc aatatccatc ctatccatca tggccttctt ttaatgagca 360  
 gcctgccttt ggtggcttcg atcccaatgc agagtttggga gagtctgana ttttcgtgtg 420

<210> 980  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-019-Q1-E1-C9

<400> 980

ggattgtgcc aagagagaat gagtcagttg caaggttttg gcggttttca gtttgacttg 60  
 ttggaaagaa atgaaaaact caaggaaaag ggttatcaag tacctactgc gaggaagaca 120  
 ggtactacca tagttggggc cgtctttcaa gatggagttg ttttgggagc ggatacaaga 180  
 gccacatctg aactaccgt atttgacaaa aattgtgaaa agatccacta catcgctcca 240  
 aatattttatt gttgtggcgc tggtagcgt gcggatcgg aaaacacaac agcgcttatt 300  
 tcttctcaat taaaattaca tcgactgaat tcaggctgtg aatcgagagt tactacagcc 360  
 cttactttgt tgaaacgaat gttgttccga tatcaaggat atgtttctgc cgcacttgtc 420  
 ttangaggcg tcgactttta tggaccgcac 450

<210> 981  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-D10

<400> 981

gtcaagtata agaagaacga acctttcaat ttgtaggaaa acaaccagca aggagtgtgg 60

ttacgtgtta cgcacgggag cagataactt gaagttttgg aaagatTTTT gggctgggtgg 120  
ctttcctgga ggagaagctt atttgaagga ggtgatagag agtaactttc aaaagccagt 180  
tccaggactc gatactagtg gagtaacggg acaaggggaa gaaaagaaag cagttggcaa 240  
ccgaacacag cagcctgcca aagcttcttc gggaaaagac tccaaccctc cttcttccaa 300  
taatggcact gccacttgt caggtgggtg ttaggttcgt ctagtaacag acccggtcac 360  
aggaagaagt cgtttggaag tcgtaccaga ggaatagaca ataacttact tagttggtat 420  
tgtgtacctg 430

<210> 982  
<211> 323  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-019-Q1-E1-D11  
<400> 982

aaagagggtt gactatacga aaccttataa tggctatgtt ccaccagaga caagtagatc 60  
taccagaatc atgactagag ccatgggagc ttttttctgg tttttcatca tgttacgtgc 120  
caagtacgac ctacctaagc gaattaaaag ccattttgaa gagaaaagag aagaagagga 180  
ggaagaggaa gccttgaaag aaggtggaga actttttag tttgttgctt ggcggcaaag 240  
gggtactttca acttgtgtaa acaactgttg ctgccttgga gtgtttgctc tttaaacaaa 300  
gcagtcaatt tttttccttt tcc 323

<210> 983  
<211> 450  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-019-Q1-E1-D12  
<400> 983

cccacgcgtc cgcgtaaata ttgtggcggg gggctccgtg ggacgcttta aaatatttac 60  
acaaactgtc tgtaaacctt aaactgcaga cacatggaac gtggtatgaa agcatccaag 120  
gctttctcgg aaggcacggt caagagtagc accaccgaag taactataaa agctgcggaa 180  
attgtaaact tgggtgtcac tttggacttg ggcgtccgca acttggactt gaaacaaatc 240

gccattaaag caagaaatgc ggaatataac ccaaagcggt ttcaagctgt catcatgcga 300  
gtaagagagc ccaaaacaac cgccctcata tttagttcgg gcaagattgt ggttacgggg 360  
gcgaaaagcg aagaagagtc caagcggggc gccaaaaagt ttgtgtttat cgtccgaaaa 420  
tgtggatatg acgaagcaaa attttcagag 450

<210> 984  
<211> 85  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-019-Q1-E1-D2  
<400> 984

tcgggtaccat tttccttgcc cccaaaaaca aacctgaacg gtcctaacg gggcattgaa 60  
aggcattgaa aaaagattac aaacc 85

<210> 985  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-D6  
<400> 985

aaagaaaaga agagaaaagc cgtactgaag accgacacag gtactcgagg agaaaggaga 60  
cccaaattaa ggtgagagaa tggacgataa ggaactaggc aaaaggatat ggtatctgcg 120  
gtagaacata tgaaagaagc agcaccgact gtttagcaaa aacacagcac tctgcagaaa 180  
agagaaaatg taaagtatag agtgtgcggc ctgccaaata gtagagaaga aatcgatgaa 240  
agtgaaagcg agtaaaagat gaggtataga gaatggcggc cctaactgta aggatccaaa 300  
ggtagcgaag taaatagacg ttgaaaggc gtccagtaag aaaggagacc caaattaagg 360  
tgagagaatg gacgataagg aactangcan aaggatatgg tatctgcggc agaacatatg 420  
a 421

<210> 986  
<211> 346  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-019-Q1-E1-D7

<400> 986

ggccagtgtt cctttccagt gtgcaaaata tgtttctcaa caagccaaac aagacaaggt 60  
attctgtgaa atataaaaac ggcaaagtcg cacttaaagt aacggacgat caagagtgtc 120  
ttcagtttct tctagacccc aaatatgatt ttgaaaaact ggaaaacatc aatgcctggg 180  
ttctgtctaa catgtcccgg ttaccgacgg aacagagttc tgtgtaatac agcttctttt 240  
ttgggtctta ttttttatat ttgaaatgct atatatacaa taaaaacagc gctagtata 300  
agaaatgctt tgaaaaaaa aaaaaagagt aaaataaaaa aggaaa 346

<210> 987

<211> 361

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-D8

<400> 987

cccacgcgtc cgcccacgcg tccgcccacg acgtctgcgg acacgtgggc ggacgcgtgg 60  
gttgatgagg gataggacaa gagttcagta tcgtgtaagt tattcgctta tgagtgttcg 120  
cctcagcttc tacaaaatta tattagcatt ttcggtact aggattgacc tgggtgggcg 180  
tacagtatac aatgtatggg atgacagctt aatcgatgac ggtatgtaca ataacctttg 240  
tggggactca gcctctacag ttgtagaacg aggggagcat ggagcgtgta gatatgtcat 300  
ggagttggtg tctataagtt tgattctagt ctttttcttg tggcttttta cattttaga 360  
t 361

<210> 988

<211> 446

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-D9

<400> 988

ttttgcacgt tggcgccatg aatggacatg ttgcaccaga ggtgaaagag ctatctacgg 60  
aagcagaaga aataaaagtg caaacgcta cgagacggaa acaccacac ggactccgaa 120

gggaggaaat actacgacaa caccgccaaa ttgcaaagtt gtacggactt taccccgttt 180  
 ccgccatcta catcgtgttg cttgtcgccc tccagtggct actcgagta tactttacca 240  
 agtactttcc ttggtacctt tggatgttgg caacgtatgc cattggtgca gttatcgacc 300  
 atgcgttgtg ggtacttatt cacgacgta cccacaactt gatattcaat tccatagcgg 360  
 ctaaccgtgt catgctttgt attgctaaca ttccccacgt cgttccttcc gggatgatgt 420  
 tccgatatta tcacatttta caccac 446

<210> 989  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-E1

<400> 989  
 gatgcgagc ctgctcaagt tatttttgat attcgtgtat gaagttatct attggtttgg 60  
 aaggaagtgc gaataaagta ggcgttggtt ttgttaccga taaaggatgat attcttgcca 120  
 atgtacgtcg tacctacgtt tcgccacctg gtcaagggtt tctaccaaga gaaactgcaa 180  
 aacaccatca gcaacacgtt gtccctttaa tagcggaagc actgaaacaa gcaaaaattg 240  
 atcccgaaca acttgattgt gtttgcttta ctcaaggacc tgggatgggc ggtccacttt 300  
 gtcagttgc cgtagcagct cgaacagttg ctcaagttatg gaagaaacca ttgattccag 360  
 tcaatcattg tgtagcacat attgaaatgg gtagactagt cactggcgca agtgaccct 419

<210> 990  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-E10

<400> 990  
 aactggtgca tcttgccgag ttgaggtgaa caattcaaat gaaatgaata gtctcaagta 60  
 ccggaatagg ttcacaaggt aatttttttag cagtcacttg gtttcgtgac agtggaaaac 120  
 cgcagtgaag agtttggtga tcaatacagt caatgtagaa caacaaaatt atctgacaag 180  
 caccatttgt tcaattttgc gtgtgttgtg aaagaacagt tggagtgtgc aaagtaccaa 240

tacagtcttt ttgatgtatc ttttgc tcaa aaagaaaaaa aaaaaataaa aagtcaaaaa 300  
 aaaaagaaaa caaaataaaa aacagcaaaa aataagaaaa ttaagaggaa aaaaaataag 360  
 aaacaaacaa aatggggcgg cgcgccaaaaa gggtccaacc taacttacgg ttgcaagca 419

<210> 991  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-E11  
 <400> 991

caaaacacaa ggcaggctaa ataacttgac catgatgcc attggtgttc ccaaggtagc 60  
 ttaccgtgtt cctggtgctc ctcaagcaga ttgggtagat atttacaatc gactctatcg 120  
 cgaacgtatt atattcttag gacaagagat tgacgacgag atttcaaacc aaatcatagc 180  
 ggtaatgctc tatttagact ctgaagataa taccaagcct atatatcttt atatcaactc 240  
 tcctgggggt tccgttattg ccggtttggc tatttatgac acgatgaagc acattgcttc 300  
 cgaagtgtg acggtcaacg taggcttggc agcctctatg tcttcctttt tgtagcggc 360  
 aggtgaaaaa ggaaaacgtt tagctcttcc tctctcgca gtaatgattc atcagcctat 420  
 ggg 423

<210> 992  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-E12  
 <400> 992

agatttgagg tggggattgt tcttaagaat ccccggaagc acctcggaac gagacgcagc 60  
 gttgtctcgc tatttcagcc aaagaaatga atcacatatt cgatagaaaa ctttctcatg 120  
 gcaacaataa agaacgaacg cccttttctg cagtatactt agcggctgga ttatcctcgc 180  
 gtttcggata tcgcataaag tgtctgcagg aagtcggcag gttgggagaa acgcttctcg 240  
 aactgtccat tcggcaactc gcaaaatatg gattgagtga tgtgattatt gttgtaagtc 300  
 gttcaactta tcccaaggtg cacctcgttg caggagatat atttcaggga ataccagtca 360

cgtactgctt tcaagaaact cctagttaca gaaaaaagcc gttaggaact gtacatgctt 420  
tactttgtgc aaaagatgtg gtggat 446

<210> 993  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-E3  
  
<400> 993

cccacgcgtc cgagaatatg tattttctgg ttctcggtac aaaatatttc taccaacgga 60  
atcgacgatg atagcatttg cacttgaata tgttcggtgt ccaccgcat cgaaaaaac 120  
tttgtcaact actagtaccg atgatatagg agatgcagct ctgtattatg ccagagacaa 180  
tattcttcag agagatgtgc aagtgagttt tacaacggtg gaccgagttg gcacctttat 240  
tggaagatg aaactgttgg agcgaagcac tagtagcacg gatgaattgg aatgggaaaa 300  
ggccctgttg gaacaagggt taggttatct caatgaagtt atctatgaca aagctcctat 360  
gactctaaag gaacaggaaa aagctgccaa gcaaagtcgt cgaggtctct gggctactac 420

<210> 994  
<211> 107  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-E4  
  
<400> 994

taagtatttt cgggttctcc ctagaaaata tttccaccaa ctgcatccat tatgacagca 60  
tttgcgactg gagatgttcg ttgtcgacgc catcgaggtg gacttgg 107

<210> 995  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-E5  
  
<400> 995

caaatttcaa acgccgcgct ttttgagtgc aagtggcttt tctctccgcg aaaaggagtg 60

aaccgttttg tttggttgca cgtatcgaac tttctctagt gtggaaatct cgtagagtca 120  
attatacaag gaagaaaacc cctggtaaca cgtggtaagg tgtgactcca tggagccttg 180  
gaaggaaagc tccagcacac cctctacgga aaaggggact tggaaagaag agccttcgag 240  
ttgttttgaa cagcactcaa gtgcaactat agaagaaacg gaggataagc ttgcaaaggg 300  
ccgaaaagta ataggggtcgc ttccactaga tgcagaaacc gatttgtccg aagccacaaa 360  
atagtttcat tcatctgaag cagcaggtat ttctgcgta gctgctttag ca 412

<210> 996  
<211> 138  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-E6

<400> 996  
ggcatggaac aagaccgact ataccagtat ccactgggtg aagttgcaaa tcacattacc 60  
aaaaaggagc cttgatttgg gttggccgga aaatacatgg acttaccocg tttccggaca 120  
aacatccggg tggagaac 138

<210> 997  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-E7

<400> 997  
cggacgcgtg ggttgatgga caaacctcaa gtggatcatc ccacgttggt aaagatagac 60  
ttgtctcaag gcagctttaa agtactccaa gactgtgaca gagatttaga atgtgatcat 120  
aataccaagt ttcagttgga acttattcag tatggtctct tttcacctgg tttttggacg 180  
agagaaaatg ttctgctctt ctatttggag ctcggtgacg gtgtattcat aagggacact 240  
ctctaccttt tctacaacaa aggtgaagaa catttggttg cgagtttaat gctgttggtg 300  
gagacacaag tttcactgta tgcagacata aaaacaaact gggagaaacg acactttatc 360  
gtttgcctca tcgtcaggtc tttgtgtgag gaatatcaac gacagtattc agagcta 417

<210> 998  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-E8

<400> 998

ggtgattggg tggcgtttga caacaaactt cgatatgctt ccttttaaatt agttgtttgt 60  
tcgtgtgaga aacagcctcc tttgaatata tggcagggga atctgtgtca ttgcttaccg 120  
aagttgtatt cgagtggaga taccgccctt ccagtgcctt tgtgacgggc actttcaacg 180  
actggaatga tttgttacca atgtcgcggt tccaagaagg tgaagaagag gtatggagag 240  
caaccaagtc ccttccagaa ggtgtctatc agtacaaatt tatcgtggat aacgtatgga 300  
gatgtgcacc agatcaacct tgtgtaaaag atgaacgcgg tatcttgaac aacattattc 360  
acgtgagtta tgatgaatgc gacgataaat attgcttttg tcattcaaga actattgcga 420

<210> 999  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-E9

<400> 999

cttgtaatca tctctttcca tttttatgga atatctttta ctttaatcgc acaaaacgtc 60  
atattttgac acgctctatt ctttatctca agctgtgtac gaatagtcgt cgtcatcgct 120  
acgatagttt tacaoaggaa acaacttggg gtagttctat gtggttaagg aatatgggat 180  
ggaaggtgtg gcagtcacat gtcaaagagt gggaattgga ttcgatatcc aaagtcaact 240  
atattgttca tcgattggat tatcttattc aggatatatt tcatgtttta tgtctcaatc 300  
gaggaaagca acgtagaaga ctgcttaatt tattaagttt tgtggagcca ctttatatgc 360  
agtcgattgg gaacaaagaa gaaacggcag caacgaatcc tctgtcttta tttattcaag 420  
agttgggttt catga 435

<210> 1000  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-F10

<400> 1000

cccacgcgtc cgcccacgcg tccgcggacg cgtgggcgag agtgatatag aaaacgatac 60  
aagttgcagg ctttatcaag aaatgtcgac ttgtacctcg agtgaagtgt ttcagtcctg 120  
caaccatcta tccaatgtgg ttttaaagtt ggatgctgag agttttttgt tccctgtgca 180  
tagtaattca ggaattgggt ggtggagaac aagtttccgt ttatccgaag aaatatatac 240  
aacttgcgac ggtggcgatt ttcacatgcc acttgcactt tgtctcagtg gaaatgctca 300  
ctgttttgct tggatcaatc agttgcagat tgctcggtat gtggcaaagtg ttggtccaca 360  
aaatgtatatt tatattccat gtggcttgct gtatagaaac gaagaaaatg tcctgac 417

<210> 1001

<211> 446

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-019-Q1-E1-F11

<400> 1001

gaaaaagaaa agttgtttga ggaccaaaca gaggatggc aaggagaata 60  
ttgggtgctt atatgggaga tgccacagtg gcaactctgt tcagtatcaa aatgttgctc 120  
tatcttacta tcatgggttt ctccataact atcttggtc tcattgggaaa gaactcggat 180  
ggtatttga tacatagtgt gccacctgca gatcaatatt gtgcatacaa gtcttcattg 240  
gaggtgaacc accatggaat tgcttcctat tgcaagtata tcgttgccgt agctgctatt 300  
gggttggtta tctcggtttt ccagttttgc tacgggtctgt tgggtatctt tttcaagtg 360  
caacaaaagt tgtggtatat tgaagatgct ttcaatctat ttttctgggc ttggtggttg 420  
gttggtgcta tcgttgctan cgctgc 446

<210> 1002

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-F12

<400> 1002

gttaactcta cgagtttcca gagttttcat cgatgcagtg aggaaggagc tgaatcctca 60  
gatgtaaccc attgtggaat acaggggtgt tattgtcgca tttgcaaaga gcaaaatata 120  
cacagtccca acttgtcttt tcataaggaa tctaaaaatt ctagtggcctt ggaggctcgt 180  
gtgagaagca aatcatttcc agaatactct gtggaacata acaacactat tcaagaagag 240  
tatatgagcc gtatgcggtc gtgttctcaa gttcttgaag acgagatata cggaacaaaa 300  
tcagacaact ggatgcatgt ttctgatgat aaaagtccaa actcgtttgt agcaagaggt 360  
aacaatgaca taacatatgt aggtgagaga caagatttt 399

<210> 1003

<211> 344

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-F2

<400> 1003

aaaaaacggt ggagaaagca acatgggaaa tttcttttcc aaactatttc agagactggt 60  
tggaacaag gaagttagag ttttaaagggt tggactagat aatgctggaa aaactacgat 120  
attatgtag aagaaactcg gaatacagtc ttcttttttt caaccagttg cactgtacac 180  
cgaatgaaag aagatagcgc gattaagact gtgccaacaa ttggttttta taaggaacaa 240  
attgaagtca acaacttgaa gaatcaagtt atggaccttg gaagacagtc atccaatcga 300  
ccatattggc gttcttagta acagaaacaa gaaacgttga attt 344

<210> 1004

<211> 375

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-F3

<400> 1004

accacgcgt ccgataataa taaaatggtc cggcgtgacc gttgacagca gaagtaagtc 60  
gattcatggt atgatatcca aagaaagact gtataaactt ccaaccatgc ttttgataa 120  
taagaatgta ccaaggcaag cttatgaggg caccagatag tattccaggt atccaaggaa 180



cttctgataa gactacttgc ttcaagtttc cagtagccca taagaatatg gacaggatgc 240  
agacgggtaa gaacacgccc aaaggtcctt ttgttaaaac agccaaagca caaaatacaa 300  
agaacataaa ataataaaac ttgccgaggt gcgtatggtt gtcaaaaaaa aaaaaaaaaa 360  
aaaaaaaaaa acaaaa 375

<210> 1005  
<211> 298  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-F4  
<400> 1005

agcggacgcg tgggatcgac tcgaaaatgg cctataaata gcgtgatcat ttcccccttt 60  
tgtttgttta tcgtttgtca aagtttggtt gttttcttgg tagcagttgt acattcaaca 120  
tcatcaaata ccaaagggag gaaagaaaga ttcttcanag aaagaaacca caagtaaacc 180  
tgcagcagca gatgctacaa agacgacaga aaagtctggt ccggaagcca agttgaaag 240  
aactggtgca aaaaaacaat aaaaagttga ctatgcatgt gcaatcctgt taagtttt 298

<210> 1006  
<211> 422  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-F5  
<400> 1006

gcagagaggg actatgagcg agaaggtgga tagtcgagag ggaaaaagcc cagaagccaa 60  
gataaggtat caaagtaaag aaagaaggaa aaggagaaga agagagggta ggcttagaag 120  
cagcaaacca gagaggaaag cgtaaagca tgaaagaaaa gaaatccgaa aaagaagaga 180  
aaaaggtaag aaagaggacc gaatcagggt aagaggtaga ggagcaagaa gagaagagag 240  
aatgctgggt ggagtagcga aacaagagaa gggaagtaaa aggtaagaaa gaggaaggt 300  
ttacgagaga aggaagtaga aagaagagag tgtaaggcgg cgtcataata gaaatccgaa 360  
aggagtagaa gaatagagag acaatanaga ttagaagaga aaagccgtag acctccaatc 420

<210> 1007  
<211> 355  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-F6

<400> 1007

aaagattctt caaagaaaga agccacaagt aaacctgcag cagcagatgc tacaagacg 60  
acagaaaagt ctggtccgga agccaagttg aagggaactg gtgcaaagaa acaataaaaa 120  
gttgactatg catgtgcagt cctgttatgt tttgtgagtt ctgtttgata gtttccagct 180  
attcttttgg tagtgaataa agagaaaatt ttttatatth aaaaaaaaaa aaaaaaaaaa 240  
aaaaaaaaaa aaaaaaaaaa ggaagaagaa caaaaagata aaaaaattaa aataaacatg 300  
aaagaaaaat aaaaaaaata tcaaaaaaaa aaaaaggggg gccctccaaa ggggt 355

<210> 1008  
<211> 323  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-F7

<400> 1008

gttggtggtt tcttgtggcg tgtgtgggtg acgttggtac cgacgactgt gtgagagact 60  
acttgacttt gcttcattct actagttgaa atatgacgag aggcaaccaa cgtgaggtag 120  
atagacaacg agcacaaaag agggcagaga agcacaagaa aaatgttcag aaagaaaag 180  
agaatattgt ttgaaaaag gaaagggacg ccgaaataat gcgccaaaaa caagcagcag 240  
ccatggcaaa acagcaacaa ggagaaaaag tttaaataca agtgttggtg ctgttaataa 300  
aacacttaca acttactgct tct 323

<210> 1009  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-G1

<400> 1009

cccacgcgtc cggttgaatt tcaatgacgc tcattaaaag tgtggatgct cgagagattc 60

tagactcgag aggaaatccg acagttgaag ttcaagtcac tactgaacta ggtgttactc 120

gtgcagctgt tccttctggt gcttcaacag gagttcacga agctcacgag ttgagagata 180

acgacaagtc gaggtttcta ggaaagggag ttacaaaagc agtacaaaat gtgaagaccg 240

aacttgcaaa agctgtgatt ggtatggatt gtcgggacca ggcagcgatt gatcgcaaga 300

tgatctcttt ggatggaact ccaaataaaa gtagactggg ggctaattgct atacttggag 360

tttccatggc tgtntgtcgt gccggcgcac ttgccagagg agtttccttg tatcaacata 420

tcaa 424

<210> 1010

<211> 440

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-G10

<400> 1010

cgaaaagctc agcttgaaga acaaagaact tgcggtgggt tggacgttat ttatgaactt 60

ggactctatt gacacaggaa ttaatgctcc ttttgacccg tttgcagacg cctcacgtgg 120

agaggacgca gcagtaacca aaaatatagt gcatattcgc ttgcaacaaa gaaacggccg 180

caagtgcttg acgacgattc aagggttga cacaaaattg gatttgaata aaattacaaa 240

ggccttcaga aaggagtttt gttgcaacgg ttgtgtcgta gacgacgcag aactgggaag 300

agtcaccaa ctgcaaggag accagagggg taaagtcaaa aagtttctag ttcaggagaa 360

attagctgaa aaagacctga taaagggtga cggatatga gtgtcgttgc cgtgtaaaga 420

cacaaagcag tcgtcagtgt 440

<210> 1011

<211> 415

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-G11

<400> 1011

cccacgcgtc cgagaagaga aaaaggttaag aaagaggacc gaatcagggt aagaggtaga 60  
ggagcaagaa gagaagagag aatgctgggt ggagtagcga aacaagagaa gggaagtaaa 120  
aggtaagaaa gaggaaggt ttacgagaga aggaagtaga aagaagagag tgtaaggcgg 180  
cgtcataata gaaatccgaa aggagtagaa gaaaagagag agaagaaaga aaagaagaga 240  
aaagccgtac tgaagaccga cacaggtact cgaggagaaa ggagacccaa attaaggtga 300  
gagaatggac gataaggaac taggcaaaag gatatggtat ctgcggtaga acatatgaaa 360  
gaagcagcac cgactgttta gcaaaaacac agcactctgc agaaaagaga aaatg 415

<210> 1012

<211> 424

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-G3

<400> 1012

cccacgcgtc cgatttgaaa ggaggggtcg acgagctcag cttgaagaac aaaaaactgc 60  
gtgggggttg acgttattta tgaacttgga ctctattgac acaggaatta atgctccttt 120  
tgacccgttt gcagacgcct cacgtggaga ggacgcagca gtaaccaaaa atatagtgc 180  
tattcgcttg caacaaagaa acggccgcaa gtgcttgacg acgattcaag ggcttgacac 240  
aaaattggat ttgaataaaa ttacaaaggc cttcaaaaag gagttttggt gcaacggttg 300  
tgtcgtagac gacgcagaac tgggaagagt catccaactg caaggagacc agagggataa 360  
agtcaaaaag tttctagttc aggagaaatt agctgaaaaa gacctgataa aggtgcacgg 420  
tata 424

<210> 1013

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-G5

<400> 1013

gaaggtggtt gtgttccacc gctcaagcaa ctcgcgttt ctcagtttcg accacaagac 60  
gttgggtcttc ctaaagactt tcttttaact tcattttctc gtttaaaggg ctgaggatgt 120

aaggttcctc aggcagaatt agaaggtctc ttgggtcgtt ttttgacgca accacacagt 180  
 tgtagcccgga gtcaaggagt tggttcggat tgctctctcc agccaagcca agtacctgat 240  
 gtgtatttag cctctacaac agactttttc tttccgctcg tggaagaccc ttatactatg 300  
 ggcaagattg gagcagcgaa cgtattgtca gatttgtatg cagcaggaat agtcgattgt 360  
 accaatgtct tgatgatatt agctgcaagt tcagatatgc ct 402

<210> 1014  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-019-Q1-E1-G9

<400> 1014

cgacgagctc agcttgaaga acaaagaact tgcgtggggt tggacgttat ttatgaactt 60  
 ggactctatt gacacaggaa ttaatgctcc ttttgacccg tttgcagacg cctcacgtgg 120  
 agaggacgca gcagtaacca aaaatatagt gcatattcgc ttgcaacaaa gaaacggccg 180  
 caagtgcttg acgacgattc aagggttga cacaaaattg gatttgaata aaattacaaa 240  
 ggcttcaaaa aaggagtttt gttgcaacgg ttgtgtcgta gacgacgcag aactgggaag 300  
 agtcatccaa ctgcaaggag accagagggga taaagtcaaa aagtttctag ttcaggagaa 360  
 attagctgaa aaagacctga taaaggtgca cggatatga gtgtcgttgc cgtgtaaaga 420  
 cacanagcag tcgtcagtg 439

<210> 1015  
 <211> 295  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-019-Q1-E1-H1

<400> 1015

agacaaaagt gaaacaactt gtcagcagtg gggaaaattg ggcaatgtac agggaagtat 60  
 gaccagtaa tgaggagtgg agtaaacaga aaaggaagta aaaggaggga atgaagggaa 120  
 gttatggcaa aaacacgtgc cagcagcagc ggtaaaacgt gtgtagcaag cgtagagcag 180

aagaactggg tgtaaaggtc gagtagtana gtaagtgtaa aagggaaagg aaaggagaga 240  
aagaggaaaag ggatgaaatg cagagatctc tagagaaagg caagaaagaa aagaa 295

<210> 1016  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-H10

<400> 1016

cccacgcgtc cgccacgcg tccgcggacg cgtgggcgga cgcgtgggtt ggcaatgagt 60  
gagttggtgc gacctggctg tgtctttgat atcggctttg gtgacttatt ttcattggacg 120  
aatgaccctt tcttccgtga tgcattggaac atgatacctc gagtaggtgg agctgattct 180  
cagttatggt cgccgataat cgacctcatt gaagaagaag acgcgtttct ggtgaaagct 240  
gacgtacctg tagtaccgac agaaaacatt aaagttgact tgaaagggga tatcttgagt 300  
gtgtctggag aaaatgctga cgaaaaaag tcggatgaag atagagaagg aacggtattc 360  
cataggatgg agagaagcta ctgtaaattt gaacgaagta tatgactacc aaagcagatt 420  
gacaagcagg gaatc 435

<210> 1017  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-H11

<400> 1017

gaaacacaga tggactttgc ttgtcgagac ttggataatc tagaagcaat gaacatgcag 60  
gtattgcgag agcgtgtgaa gtctcatggg acaacagaat aactcaaata ataacgtttc 120  
gactattgga gacttgggca tgaaagatat ttggaagctt tttcaataga gaaaacgaat 180  
ggcagtgcta tgccgtgtag attatatctg tgaaagaaca ggagaatgat tttatctaca 240  
aagagatgcc ttgtgtgatt ggtactatct tcgctctttt ccgtctcaaa gattgtcctt 300  
gtcatcatct gcaccgtatt tcaagtatga tttaaaatta tattgaactc gaagttatgt 360  
atttcctgta gccataatca tttccctaag acaagaatgg atgaagaaag gaatg 415

<210> 1018  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-019-Q1-E1-H12  
  
 <400> 1018  
  
 ggaaaaaaga atgttggtat taacaatagg agattttcat attcctagtc gagtggctgc 60  
 agtgcctctc aagtttcgag aacttctcgt tccaggaaaa atacaacgag tattatgtac 120  
 tggaaacttg tgtaacaaag agacagaaga gttcctcaaa gttatttgtc ctcaagtaca 180  
 gattaccaaa ggtgatatgg acaacgttca gtcagaatat ccggaacggt gtgtaaccaa 240  
 cgtgggacaa ctttcttttg gtctttgccg cggacatcag ctaattccct ggaacgatac 300  
 aaactcgctg gcggcacttc ggcgagatat ggggttagat gtttttagtg ttggtcattc 360  
 gcattcgttg aaaatgacag agacgataga tgga 394

<210> 1019  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-019-Q1-E1-H3  
  
 <400> 1019  
  
 agggcgggac atgatcaagt ggtagcgtac aaacgttcag aagaagaaaa atggagccaa 60  
 gcaggtgaaa aaagatggca gttattcaaa agactggaaa aagagaatgc tactgcccgc 120  
 tttttcttac aaaacaaagc tattttttcca ggtgctagag ttttggaact ggcttgtggt 180  
 tccggagaaa ccactttgca agtagctgcg aaagtaagag gctattctgt accttcagga 240  
 gagaccacgg gggaagtggg ggataaattg ttggatatat tacgtccatc ttatcaccag 300  
 gaagggaac tggtatggtc cagcaatagt ggttcggtag taggtgtaga tatcgccaaa 360  
 ggaatgctga atgtgttcag angcangttg gaaaatactg ttttgaaaga tcacgtgcaa 420  
 cttgt 425

<210> 1020

<211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-019-Q1-E1-H4  
  
 <400> 1020  
  
 tcgggcaaaa caacaacttc agggaaacaa cttggaatcg ccacctacaa atacagaaat 60  
 aggaatggaa gatacttgga ataacacgtc tcgttatatg tctatatttat actatagctg 120  
 gataagatgg cgtcatttat tgcattcctg tcgacattgg gctactcctc cctcgattgc 180  
 catcgtatcg gcattattac ttggaacgat attcaagcca ctagctctat tgttgatagg 240  
 ttccaatgct cctttgagag tagtggttgc tgcccaagaa actttgggtg ctgctgctat 300  
 tgcattgatg tccttggtgg ttggtgccaa tttgtacaat tcttataaac gtggattccg 360  
 taccaat 367

<210> 1021  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-019-Q1-E1-H8  
  
 <400> 1021  
  
 gtttgttgtt ggtctggttg ctcaagggtg gaaatggcag tagttgaaga taacagagtc 60  
 tttgttggtg gtcttccttg gtcagttagt gaagaagacc ttcgtgaaac tttttccaaa 120  
 tatggagaag ttgttgatgc aagggttgtt gttgaacgtg aaactggctg ttcccgtggt 180  
 tttggtttcg taccctatgc agaaggttcc tccgtagacg aatgcattgc cgcactggat 240  
 ggcaaggata tgcaaggacg cactattcgt gtgaacaagg caatgtctcg tgaacaacgc 300  
 gagagtggag gagactttcg tcgcggtggt cgtggacgat acggagggtt tcgttccggt 360  
 ccttatgaga gacgtgaacg tgactctgat cgtagaagag atcatgacag gagagataac 420  
 gggca 425

<210> 1022  
 <211> 447  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-019-Q1-E1-H9

<400> 1022

gggagggagg atgatggttt ggttgcggtt atgggtggg ttgacaggga tggcaggttt 60  
cgctgcggcg ataggtgcct ggtggaaccc atcctcgccc atcgatacca tctaccgaaa 120  
cattgcacca tcgcatttgc tcgcatctcc aatggatgaa gcgtcgctgt cgttggttaag 180  
ccgcttatat gccacctggg tatttctttc gaccgttggt cgatgtactt ttatgctatc 240  
ttccgagttt tccttgccct tagccgtcgt caccttggcc acctatgtcg tcgctggggt 300  
gcactttgcg gtggaatat ttatttacca cagggtgccg ttgaaacctg gtggtcaagc 360  
acctttgttg gttgcctcgg tgcgatagg ttggatgctg tggatattga tggcgatgcg 420  
gagtacaagg aaagcagaat ataggaa 447

<210> 1023

<211> 391

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-A1

<400> 1023

agtcgtgggt gacctgtttt gctgtgttcc aagggtttcc tttgcagtgt aaaaataaaa 60  
ataataaatg ggacatgact ttgcacaaa acgataatcg ctgcttaata aaagaaaaat 120  
ggaaagatat tcaatataga cagggaagt ggcaagactt ttccgttatc ttttctgctt 180  
tatggagaga aaaaatgaat atcacgggag cttttagtcc ccagtatttt gttattgcat 240  
atctacaaa ggatgaactt gatgtgttgt tagggtttgg gcacgtgtgt gagaaattag 300  
tagtaaggac gtggaagtta ttattcgttt gtagatcaaa cctatcaatg agagagcaag 360  
aaagttggct tccttatatg tatatcctga g 391

<210> 1024

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-A10

<400> 1024

aggacgcgtg ggcggacgcg tgggcaagag gagaggacat tgaattgttc aggtcataag 60  
aaaggaaatg gtgatggaat aacttctgtt tcatttagtc ctcgttctcc ttatcgtatt 120  
gcaactgggt cgttggaata gacagtgaga gtattcgatg tagagaccgg tgaacttttg 180  
cacaattttc gtcaacatgc agattctgta tattctgttg ccttttcgag cgatggaaga 240  
tatctgttat caggttcact tgataagaat gttatattat gggatcttgc agtccttct 300  
ccaaataact atacaatttt caaaggccat actgactttg ttttgtctgt cgcatttagc 360  
ttaaacggtc gtcttctctt gagtggcagc aaagaccgta ctgtaactt 409

<210> 1025  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-020-Q1-E1-A11  
<400> 1025

actcccggtt cgtccgagat gaaagaagat gcatttcctc gagtttatga cgacgcgaga 60  
tggtttgggt tgaaaattgt tgtattggat caagcgagac ctagcaaattg gtcttttggg 120  
gaaaattccg caccacaatt gcaccgattg gagcgactat tggaggaatt ggatgcttct 180  
cgttgtatcg tggttggaca ttatcccgta tgcaatgccg atggaagctt atccgatacg 240  
tttggtcgca gtttaaaaga tgtggggcag ttgtaccaag tattgtgtag acaacctcct 300  
ttggcatatt tatgtggaca tgatcaccaa cattatgtgc aatatatgca agttgggtgg 360  
ggaaacggtc gagtgccatt gatatgttgt 390

<210> 1026  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-020-Q1-E1-A12  
<400> 1026

cggacgcgtg ggtgatgatg tgggacaaaa cgacttggac ttttcttcag actccgcaat 60  
tcttgaaagc gttgcgtgtc tcatgtttct tccctgcaag gcatcgttat tcataggaac 120  
agaggatata atctcctctt tggatagcat acaccgggtc acggatttga gttgttcctt 180

cgcaactccgc aactcagtcc ccaaagattc taattctttt actagacaac gacgctcttc 240  
aagcaactca agtttctttt tctctgcttt acataagcta ctgttggttt cttcttcttt 300  
ggatttgtag aaaccaacga gtgcttccag ctctctgttt aggccttgta tcaactgcctt 360  
cttcttcttt cttgatcgtg acgcagagtc ncggtttctc agtttctttt tataaagcat 420  
gatat 425

<210> 1027  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-020-Q1-E1-A2  
<400> 1027

ataatgaaac ctcttcaatt ctacttgctt caaaaggagc tcgaagggtt tccaacgtac 60  
ttgctggtaa aacctttggt tctgttcctc ttgcgaacaa aggctccgtg aagtctttta 120  
gcacagggtc gctctctcac gttgacaggg aaggcaacac tgcttcaact acttttgact 180  
ttaccgatga gaattacgag aagattgaga atattttgaa gaaataacct agaaattaca 240  
agtcgtcagc agtgattgca ttgctcgatc tagcacagcg acagtgtggt gggttgattc 300  
ccttggcagc gatgaatcaa gttgcaaaga ttttagagat gcccccgata agagtctatg 360  
agattgtaac attctattcc atgttctatc gtgaacctat 400

<210> 1028  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-020-Q1-E1-A4  
<400> 1028

cgaagattgg tgggaaaatg tcggaagaac aaaaagacaa tcctaacaag accgcttccg 60  
ttgtttctga acaagacaac caaagtgaaa aagaacaaga tacaacaaca actgttcagg 120  
aagaacaaca aaagtacaac aataataaca acaatagtga gaactctaca gtccttggtg 180  
aagataccaa gtcccaacta gtgagagcct ttgcggatgt taccaagggt tcgtcttcgc 240  
aagctgaaga atatcttgaa aacgccaaact gggagctaca aacagcagta cgacaatact 300

ttgataacaa cgagaatgcg actatcggag aaagtcctgt ccctactgcg gatagtattg 360  
cagcacacat tacagaaata agaaagaaag ca 392

<210> 1029  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-A5

<400> 1029

cccacgcgtc cgggacgatg gaaggtgttc gacgtgcttt ctatgtagtt ggtcagatga 60  
taagagaaac atgtcaatcg atggatcact tgggtatccg agttcaagga gggtatcatt 120  
atcgtgaacc attgagtaga cataggcagt tgatgaacat cggattaaag aaaccagtat 180  
ttgaagacaa tgtatttatc gctcccaatg cttcggtgat tggcagtggt caacttggag 240  
ccaatactag tgtgggctat ggtgcactgt tgagagcgga tgccgtaccc atcgtgggtt 300  
ccagtggcag tcatatcgga gataatgtgg ttattcattg tactcgtaca ccggaagaac 360  
gaggaaaccc aacgtttatc ggg 383

<210> 1030  
<211> 436  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-A6

<400> 1030

cccacgcgtc cgggcaatcc aaaatggtta gtgcctcata tgggtgtttac tggaaatcga 60  
ccttcctctt gtctcttgat gcctgtctta gacgcgatg ttacgggaca acttttgggg 120  
ctttatgaac atcgcacagc cgtgcaagga ttcctttggg agattaactc atttgatcaa 180  
tttgagtag aattgggaaa agtcctggca aataaagttc gcaagcagtt gaacgaaagc 240  
agatatttta ataaagatat ctacgggttc aatccctcta ctacaaggct gctcaatcga 300  
tacttgaag gttctgtagg atgtgctttc gagcatgttt atcattatga gtagtttggt 360  
tcttgttttg gtggagttga ttttttgata aaaatcatcg agttttataa agtacgatag 420  
agcgatgtgt gtcctt 436

<210> 1031  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-A7  
  
 <400> 1031  
  
 atctgatgtt gcgaccttat ctgcaaagca aaggtcagaa tgtcggttga aataatgata 60  
 gagcatcagt ttcaccagat gaaactgggtg acgacaagta tgtcgagagt tattcgggag 120  
 agttacaacc aacttttcgg gaattggaag atggaagtaa gcttttgggg tgttcgcatt 180  
 atttacgagg cgcgaaaatt cgaacagttt gttgttccaa attttatact tgtcgattgt 240  
 gtcgatga agtggaggat cacaagggtg gagacaaccg ctatgcaact cgtgaaatgc 300  
 tctgtatgca ttgtggccat attcagccta tatctcagtg gtgttgtaag tgctcaaaaa 360  
 gaatggcacg ttacttttgt cccatttgta aattatttga tgatgattca tctcgaaaca 420  
 tatatcactg tca 433

<210> 1032  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-B1  
  
 <400> 1032  
  
 acccacgcgt ccgcccacgc gtccgtgcat ctcgttacaa cttggaacaa tggcaccttc 60  
 caagattatg acccaacctta tagtaagtat tatattctat ggtctcataa aagtatcgac 120  
 gaatgtttgt cggcagaatt tgatatttcg tttcttgcaa aaccgaacca aggttattat 180  
 ttggttatac gaggaaccaa gttgtaggat tgaaggaaaa ataagtggct tcgatgagta 240  
 tatgaacttg gtcttggatg aggcagtgga gtggaatata aagaagaaca cgagaaccaa 300  
 tctgggtaga atactttctca aaggggacac tattactttg attcaaccg cttaggagga 360  
 aagcggtgtg tgtcgtccgt tgacaccaa cagagttttt gtgtcaatag acaaagagct 420  
 gtaaagatta gagactacaa c 441

<210> 1033  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B11

<400> 1033

ggagaggaaa aggactgtca tatttttttac gcagctagga gcgttatcag tcctcctcct 60  
ccacctccag gaactccagt ttcttatggt accaaggaga aagttatgga agcccttaga 120  
aaggcagaat tttcagatgt aaaggcgggtg gagtttgagg ttgttcatga aaccaaagat 180  
gccgaagaat acatcaccct tatgtctggt gtcaataaat ggatggaaaa aagtttgagg 240  
gagaaagggt ccgaactttg gcaaaaatta gtaaattatt gtaacgatcg ttatcgact 300  
ccaaatggta atttgcgatt tcctaagtgt tgtgtcggag tgacggcaat tgcttaataa 360  
aagaagagtg tccgt 375

<210> 1034  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B2

<400> 1034

gtcgccgtct tggaccgcac attgttttgg tggtcgcttt tgtcgttcaa gaaaggacgt 60  
tgtagtagcg atatttatcg atatggccaa aagtaaaaat cataccaacc acaaccaatc 120  
ctataaagct cataaaaacg gtatcaagcc acctcgacag caccgggtttc aaggagagaaa 180  
gggggtggat agcaagtttc tacgaaatca gaaatatgca aggacgggaa cgattcgagc 240  
gttgagaaaag cagcgcaagg aacaagagaa agctagaaga gcgacaaaac agtagatggt 300  
ggaaatggat attttcaata caagctagta aaaaagatat ttcgagtaga tggttt 356

<210> 1035  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B3

<400> 1035

cgaccttgct ctactcctta aatttgaaat attgctatta caagttctca aatgggaact 60  
 tgccgttcct catgcctttg acatcttctg tgcttgata gattacttgc ggtgtagtaa 120  
 tgatgtctcc ttggttacat atgcttacag tttgttgcaa aaatatgcca ccgagtattc 180  
 catgctaaga ctttctcctt ccactttggc aattcattcc attctggtgg ctcttcaccg 240  
 aaatgcgctc gcttctcgtt ttgataaaag tctttgcgag gatattgaga aaatttctac 300  
 ctttctccag gttactccat cgcacagaa tgagtttcag aatctactaa aggcagtga 360  
 gagaagaatc ttctg 375

<210> 1036  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B4

<400> 1036

aagaagatgg tctacgagat ggcacgagcg gttgcttctc acgcgttacg tgcatatgtc 60  
 cctggcaagt ttactcgttc cgtactaagt atcttgtgca ttagaagtgc aggtgttatt 120  
 ggtgctgtgg gagttgtttg ttttatatgc tgtagtatca atccgagaaa cgttatcagc 180  
 aatgtatatc acattatatt tgcagtgttg ataatccttt ccgagttggg tttcactttt 240  
 ctgttgaagc ggtttgcgtt tttagatacg ttttttggac ttggaatatt ttatattttc 300  
 gtgagtttat tggcagtgga tactcactgg tttcagatat tggctggagt agttgt 356

<210> 1037  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B6

<400> 1037

atttcatcat caaccagaaa cgactgttat atttgcaaaa aacagagaaa agcttattca 60  
 ccttgatttc aacgaacttc tttcagagct gctaactctt ttgtggtttg tcaaaaggag 120  
 aacgagtcgc ctgaacgaga cgcaagtga acaactgaat taaaggattc ctctgcgcct 180  
 cagtctatat cgatagatga agcaaaccga atatttgaaa aggaagctta ttcaggtcat 240

gaagcagagc cagtaccta aaaggaacct tatccgggtt attatcgga catggaacaa 300  
atgggtttta aacctaaacc aaagaatgac ggactcaaag ttggtggtgt caagtccttg 360  
tacagagcag atggcactcc atatgctcct tggtaattg 400

<210> 1038  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B7

<400> 1038

cccacgcgtc cggaatttcg tacagatgag ctaaaatgga tggaatcgac tcgaaaatgg 60  
cctataaata gcgtgatcat ttcccccttt tgtttggtta tcgtttgtca aagtttggtt 120  
gttttcttgg tagcagttgt acattcaaca tcatcaaag ccaaggagg gaaagaaaga 180  
ttcttcaaag aaagaagcca caagtaaacc tgcagcagca gatgctacaa agacgacaga 240  
aaagtctggt ccggaagcca agttgaagg aactggtgca aagaaacaat aaaaagtga 300  
ctatgcatgt tcctgttatg ttttgtgagt tctgtctgat agtttccagc tattcttttg 360  
gtagtgaata aagagaaaat tttttatatt taggtaagag gaaaaca 407

<210> 1039  
<211> 441  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B8

<400> 1039

atcacttccg acctttgtaa agtttctatg ccgttgcttt tatctttgca aagttttaa 60  
ttaaaagcat gattctgaaa tagtgactgt atttctcttg caggagtctt gtcttgagg 120  
agctagtaat agggagcttg ttctctgcag ctgcctttct tatgtctatc atagtattct 180  
atatatatgg ctttaagttt aaacgagagt cttgaaata agaaccaagt tggcaacagt 240  
tttgcgttcc ttggtattga acaagcacia gctacatgaa actgacaaga aaacctttct 300  
cgaggatatt taaatagtat atttggtatt ttatctcctg agttctttta ataactgcca 360  
agagtgttgt caactagatt tttactttag tgggtattta ggagaaaaat tgttaccttg 420



tcctacagtg aaattacttt t 441

<210> 1040  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-B9  
  
<400> 1040

gaaaaacgtg tcatatggcg agcttctaag agaccgcctc cagaagattc tgctggcttc 60  
aattttactg cgtttgcaat tattttgaat gagttgacgc ctagtattga agagaagatt 120  
ccaccgacgg actcgagaag gagaccggat caacgggctt tagaagagtc tcgctttgcc 180  
gatgctgcga atgaaaagca acgtttggaa gaaaaacaaa gagctgctag gaaggtaaga 240  
agaatatgag ctacaagatg tatgttttct gtgatggttg atgaggagga gtatagatga 300  
gagaagagcg aggggaagaa tattctccat tatggtttga ctggaaatat gaccaagtca 360  
ccgaaaagta cgattggaag tttaatggca aatattatat tcatcgcaaa gaaaagaaat 420  
gggacatatg 430

<210> 1041  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-C1  
  
<400> 1041

cggacgcgtg ggcggacgcg tgggagtatt cataagcatt ttgggctttt tgttgctttt 60  
atccttttct tccatgtttt actggatgcg aaaaaatgct cctcgaacgg acttatagat 120  
gcttatcgat ggagctttcc gcggtgtaat gactttgaat aataaagttg ggttgcttcc 180  
atttattacg atagacagtc aggggtgttc gatatgttta tcaagttggt aatagcagtg 240  
tttttcttga tcaaccattg tttttgaaag agtatttgaa gagcctacta cctacgaaaa 300  
atgaagcaag gatgtagaat acaatagata tttttaaaact gtccacaagg aataggcggt 360  
gaacaatata aaaaaatttc ccttgccaag 390

<210> 1042  
 <211> 103  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-C10  
  
 <400> 1042  
  
 attcgggtctc cttttcctcc acttgccaca atatagcaat agaacctgtc ttttctccca 60  
 acagcgttta ttttatatcg agtaaaaaac cttgtttcac ttt 103

<210> 1043  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-C11  
  
 <400> 1043  
  
 cccacgcgtc cgcccaacgcg tccgccacg cgtccgccca cgcgtccgag agaggaatcg 60  
 atcaagcagt caaggcagtt acagagaaac ttagaagtat gtccagaaag attaattcga 120  
 aagaagaaat acaacaagtt gctacgatat ctgccaacgg agatgaagaa ataggcagtt 180  
 taattgccaa agctatggaa gctgttggga gagaaggaac gattacagtt tctgatggaa 240  
 agactgtaga gaatgaattg gaagtagtgg aaggactcaa gtttgatcgt ggctatattt 300  
 caccttattt tgtgaccgat gcaaagacac agaaatgtga atttgagaat cctctcattt 360  
 tatgtgtcga gaagaagata tcttcggtga atgca 395

<210> 1044  
 <211> 339  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-C12  
  
 <400> 1044  
  
 aaaaaaaaaa aaaaaaaaaa aaaaaagaaa aaaaaaaaaa aaagaaaaaa acataagtac 60  
 acataaataa aaagataaaa aactactaa aactaaaaag gggggtcgct ccacaggttg 120  
 aactcttact tacctttgaa cggggaaaca tcagctcttc acaaaggtta cccaatttcc 180  
 tttcattggc cgttttttta aaacgctctg actggaaaaa ccctgcgggtt atccaactta 240

ttcccccttgc cgcaattccc cctttttcca gcaggcgtaa tatcaaagag ccccaaacc 300  
 ttgcgccttc ctaacatatt cccaacctta atgggaaaa 339

<210> 1045  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-C2

<400> 1045

acggacgcgt gggcgagggt cttatcgtgg aatgaaaaga gattcagaac aaggaggata 60  
 tgacttggag caagtagtag aacatgttgt tcagtttgaa gagcgttttg gacgtcgacc 120  
 acgtatctta gttgccaaaa tgggacaaga tggacacgat agaggtgcca aagttattgc 180  
 ttcaggattt gcagatttgg gttttgatgt ggatattggt cctttgtttt cgactccggc 240  
 agaagttgcc aaacaagcca ttgaagcaga tgttcattgc attggcgttt ctagtttagc 300  
 agctgcacat ttgacactag ttcctgaact tatggaagaa ctacgaaagc agtctgcaac 360  
 acatatcaaa gtcatcgttg gtggagtcac tccatatata gactatgac 409

<210> 1046  
 <211> 354  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-C4

<400> 1046

gttatttttag cattctctgc cactatcatt ggcttggatg gacgtaaagc agacaacata 60  
 tggaacgaca gcttattcta tgatgggaag tacattaact tttgtgctta ttctgcctct 120  
 tctgtttag aaggagggga ccatggagcg tgtaaataatg tcatggcggt ggcgtctata 180  
 agtttgattc tagtcttttt cttgtggctt ttacatttg tagatgcgtt gtatcctatt 240  
 cttaccaagt tttggtttat tgaattgggt atcaacgtgt ttcaaacaat gtggtggttg 300  
 gttggagcaa ttgttgatc tgcannaagg cctacaagct ctgtactaga cgct 354

<210> 1047

<211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-C5

<400> 1047

gtttcttaga caaagaaacc cgtcatttta ttgggtgatt tcaacgttgc tcatgaagaa 60  
 atagatgtgt atgctcccga cggattgcgt tccaaagctg gctttgttgc tagtgaacgt 120  
 gaacattttt cccagttttt gaaagaaacc aacacgatcg atacatttcg ttatttgtat 180  
 cctcgacaaa cacaagcata tacattctgg gaatacaaga cgggaggtag aattcgtaac 240  
 cagggttga ggatcgatta ttggtaggaa tgtagtcata tctttgttat atttttattt 300  
 tcgttttcta gtttgatata ttgttctttg gtggagcgtc tgatggattc cttcatattg 360  
 gacaaagtac aaggaagcga tcattgtcca gtangaattc gattgttgtg gagtg 415

<210> 1048  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-C6

<400> 1048

tttcttttgg gctcttatcg attgcctgcc ttctctcgac actcgttggg ttgtcctttg 60  
 aaaacacgtt ttagacagat tcaaattggt gcagtaactt ttaagaaaca gaatactgat 120  
 gtacctggtg ttctatacgg agaaaatgct cccaacaact ttggagttat tgttgtccaa 180  
 gagtgggtgg gtttgaacga agtgatcaaa aaacgagcac aagagctgag cgatggtttg 240  
 caatgtaaaag ctcttttgcc agatttttat cgaggaaaag tagccacca accagatgaa 300  
 gctcatcata tgatgaccaa tttggactgg cccggcgcta tcgatgatat tgcagctgcc 360  
 tgtcagtact tgaaggaatc caaacagtgc aagaaagtag gcattgtang atactgcatg 420  
 ggtggcgcta ttg 433

<210> 1049  
 <211> 409  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-C8

<400> 1049

gatgaattgt ggcggcactt ggtcgcaccc aaagatgtcc gctagtcgaa caccgagtgc 60

gctatctacg ggatttattt atagtttttc aaaagttact cgtactttga gtgtctttca 120

caatagtaaa agctgttttt cataccctcg tcattcggaa ggactatgtg tcaagcctcg 180

attattaaag gtccattttt tggccaagcg ttgtttttcc agaaaacgaa agagccagac 240

tgacacgaaa gcagtgttaa atgaaagtac gacacttcaa agcaaagaga gcttacaaga 300

atatggtgca agtcaaatat ctgtattgca aggcctcgaa ccagtgagaa agcgacctgg 360

catgtatatt ggctccacgg gtatacaagg attgcaccaa cttgttttt 409

<210> 1050

<211> 56

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-C9

<400> 1050

cccacgcgtc cgggagtaca cccaagtaaa ataaaaccgg cttcttttgg tgggtgc 56

<210> 1051

<211> 343

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-D1

<400> 1051

cagggaaagta tgaccagta atgaggagtg gagtaaacag aaaaggaagt aaaaggaggg 60

aatgaaggga agttatggca aaaacacgtg ccagcagcag cggtaaaacg tgtgtagcaa 120

gcgtagagca gaagaactgg gtgtaaaggt cgagtagtag agtaagtgtg aaagggaag 180

gaaaggagag aaagaggaaa gggatgaaat gcagagatct ctagagaaag gcaagaaaga 240

aaagaaagga agacacagta aatgaggcga gaaagcatag gaagtgaaac ggattaggaa 300

cccgtgtagt ctatgcagta aaagaaagaa tgagtaagaa aaa 343

<210> 1052  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-D10  
 <400> 1052  
 attgaatctg ctatcaacgt gtttttctgg gcttggtggt tggttggtgc tateggtgct 60  
 actgcggcaa gacctttctac gggaatgctg aacttgcaca acaacaggac ggaagtaaac 120  
 gcagtgggaag ccttgctttg ggccaacatg tgcttggtact tcttcaatat cttcttggcc 180  
 tttttgatat actgggttgg tgaaaccggt ggttggtattc ctaccgttgc agactatcgc 240  
 gtgttgactt ctgtggagaa ggatcaaact ttgtccaaag gagcggagat gcatcaagaa 300  
 gagtctgcat aaaggactag ttttgtatag ttgccatcat ggacgggtttg tgtggaaagt 360  
 tgtgatttg tagagagtgt gtttgtgagt tgtgtgtggt aatggtgttt tac 413

<210> 1053  
 <211> 339  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-D11  
 <400> 1053  
 aacgcttttg agtgtcgttg tggtgtgtt ggtgaggtgg gaagcaagaa gagatgagta 60  
 gaggaagtag tgccggttat gatcgacata ttactatttt ctctccagag ggacgactat 120  
 atcaagtaga atatgccttt aaggctgtta agtcagtagg aattaccacc gttgctgtaa 180  
 aaggggctgg atgcagtttg tggagtaact caaaagaaag ttccagatta gtcattgac 240  
 cctaaatcaa tcaacaatgt tttccgaata accgattacc acgggtgtat tttcactgga 300  
 cttgcaacgg acgcaagggc acaactacaa cgaacacca 339

<210> 1054  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-D2

<400> 1054  
acacagacgt ccggtgcaaca aggccgtaac tacctatact caaacctgct gtgcttatgc 60  
gcatgaaagt tcctatgcac tcagtaacga gcaatatggt caggaaactg tgtctgctca 120  
atatacttca tactaccggg aagcatccgc caactactat tatcgatcag ctgcgcctca 180  
gaaatgggtat aaagaagaat ggcaactcata gtgctgggtt ccaatacagg cctatgacac 240  
ttatcaaggt tctcc 255

<210> 1055  
<211> 263  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-D3

<400> 1055  
agatatctgg tactcctcga tagctatatt cgtaccgtat gcacgatatc ataacgttta 60  
tgaagaacaa tgaataacac tagatgacta ttagcgagaa ggtgtatatt ctatatggaa 120  
aatgcccatt ggccaatatg atgtatcaaa tgttataaat aagtaaaatg ataataatat 180  
agggtatgct tagaagcacc aatccataga ggaaaacgtt taagcatgat cgataataac 240  
tctcaaaaag aatatacaca cgt 263

<210> 1056  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-020-Q1-E1-D4

<400> 1056  
cggacgcgtg ggtgcaatcc aatcccaaca atcgaaacca ttgaggagag ttgaggaacg 60  
atgaagtggc aaagcgggtcc taggaataca agttttaata ggatacaaac gctactgctt 120  
ttcttgttga ttatttgcaa cgtttttcca tatagttact ctatacaatt ttatatgaac 180  
gctggaacga agcgttgtct ttcggaagaa attacctcaa acacaaaggt gtttggtgaa 240  
tgtcttgtn tccgtgcgga aggtccatg tccgtagatc tggtgattcg aggacctcaa 300  
ggggagacta tagtgcaaca gaagaacata gataagcagt catttagctt cacagcacca 360

cagcacgttc ttgct

375

<210> 1057  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-020-Q1-E1-D5  
  
<400> 1057

ggaacgactt gatcttgcgg tggataccaa tcctgagtct cttgcgctca tcgatgagtt 60  
ttatggtgga tatgaagaca tgtacaactt taaccagttt caagtaggag ttgaaacccg 120  
tgcaagaagt ctgagaagcc atgctgcttt ggaagaagaa agtgggaaaa gtgaaggcgt 180  
cgggtgctctt cgaaagcggc caggagagtg ggatccttgg gagagtatag aagtgcgtg 240  
gattcaaccc atcgatagaa acatggaagc attccggttc cttagtcctt gggagcggtta 300  
tcctttacat cagcaaggaa tcagttttgt ttagcatcca cttatttgtc gtcgcgatat 360  
gaaagaagcc aattcaggag tgcgcatagg ttccggacgc aatatgagag caganactat 420  
gtcagcccg a 431

<210> 1058  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-D7  
  
<400> 1058

gggaaacgca gcgattccat gttgaaagag ggtacactat attgtccgat ctcaagtttc 60  
aggtgcttca agatggaaaa cccaggtga taacttcgga tcaagtattc ggaggaaaga 120  
aagtagtatt gtttgggtta cctggtgcct ttactccaac ctgctctagg cagcaccttc 180  
caggcttttg acagaagggt gatgaaatca aatcgaaagg agtagatata gtcgcttggt 240  
tagctgtcaa tgaccctttt gtattacatc agtgggcaga gtcacaggga gtggcaggaa 300  
aaattctcat gttagcagat ggtggtgcgc aatctgtcaa gaaacttgga ctggatatcg 360  
atactggtga ctttgggtgt attcgttgtc gtcgattctc aagcttgatt gacaattatg 420



tcgtgaaaaa gcttcat

437

<210> 1059  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-E1  
  
<400> 1059

accacgcgtc cgaaggcttc aggtgtcgac caaggcatca atactgcaac cgaatttggt 60  
ggtcaattta aggtaactgg atatcgtagc ggattgtttt tggatcccaa aggaagaggt 120  
ggaacttcgg gttatgatat ggcagtagct cttccagcaa aggaagccga tgggtgcagaa 180  
ggtcaagaag acttgttgag agaaaataac aaaatatttg atgtgaccga tggttccata 240  
gagatggctg tcaacaagtt ggacccaagt actggagaaa ttgccggtgt tttcgtttct 300  
gaacaactct cagatactga tatgggagca aaagatccga aaaaagtgtt attgaaagga 360  
atcttttatg gtcgcgtggg ggaagatgat gctgcatcgg agtaataaga atggacaatt 420  
ttg 423

<210> 1060  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-E10  
  
<400> 1060

cccacgcgtc cggatttcca gatgatattt atgatggcta tactagtaac gttccaggaa 60  
atccgtggat tctatgtact ttaggaatgg cgcaatatta ttatgagttg gcagcagagt 120  
ggttgaaaca tgaaaagatt gtcataaggaa agtggagcaa agactttttc agacatttga 180  
gggttatgcc tctccttct cctcctcaat cttctatatc gacgaccatt actggaaaag 240  
cgatttgtag ttatgtttct gcgctattag aagaaggaga tcgcgtattg aatgctattc 300  
gaaagcatat agttcctagt ggtatgttta cagaggagat tgatcgatat actggtttcg 360  
agcaaggagc tatcaattta acttggagtt atgatgcctt tgttact 407

<210> 1061

<211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-E11  
  
 <400> 1061  
  
 cggacgcgtg gggtcctgcg acatggccaa cttgaaacaa cactttacaa agttgttttag 60  
 aagaactagc caaccttcca atattcatag agcacagaca accacagata ggacaaatac 120  
 aactcatata accaacagaa ataggcaact tgcaacagct cgtcgcatgg ctgttcaaga 180  
 aaactatcct gagattcctt acaaaatggt atttatattt gctctcttct gtttctcggt 240  
 gattggatta gtttcttatg ggttatggta ttcaggagcg ccttggtcca tagccgtcat 300  
 acccctaata gcccgaagct tcgggtttac tctctctt accatgtttt atatttcttc 360  
 caaatatccg cctcccgtaa gaaagacaac tactaggcaa agaat 405

<210> 1062  
 <211> 297  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-E2  
  
 <400> 1062  
  
 aggatttata actgctgtga tttccaatgt ggactttgtg actcgcaaca tcacatgcaa 60  
 gtttaccatg gtcgacttga agaacgagaa gacattgata ggcataata cttatgcatt 120  
 gattactatc atacgttct ttatggaatt gcgctttgca ttagtcatgg aaggctttcc 180  
 tcggttgga tctgcggttg ctggagtatc gaaagccatg ctatttggga gcatcatgtt 240  
 ttgctcccta ttttaccatc tttataacga ggtttcgtac ctttgtctgg ataattgt 297

<210> 1063  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-E3  
  
 <400> 1063  
  
 cggacgcgtg ggttcgtgat gaggttgccg acttgagaa ggctgggtgt accatcggtc 60

aaatggatga acctgcgctt cgtgaagggt tgccattgaa gaaggaacgt tggaatgaat 120  
 atttagattg ggctgtgaaa gcttttcgtc ttagtacggt cgttgcagca cccaagacgc 180  
 agattgtcac ccatttatgt tatagtgaact ttcaagatat tctaaaagcc atcgatgaga 240  
 tggatgccga cgtattaacc attgagaata gtcgtagtga tgatgccatg ttgcgtgccc 300  
 ttgccaagta tggttattca cgtgatgtgg gacctggagt ctatgatgtt cattcaccgg 360  
 ctgtaccgag catcgaattt ttgaaaaaga aaa 393

<210> 1064  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-E4  
 <400> 1064

cacatttgtg ccatttcttc tctcgaacgc aactttcacg atgggtgctt cctctaaagc 60  
 gatatgtgtt ggtaaaaact atgaaaaaca tgcccgtgaa atgggtgata tggccacttc 120  
 tcgtggagat cctatcatct ttctaaaacc tagttccagt tatttgcac aaggcagtc 180  
 catcttgta cccaagggtg ctcaagtaca tcacgaagtg gaattgggag tgattattgg 240  
 tgggtcaagt gctgttagga acgtgagtgt gaaagatgct atgcagtatg tccaagggtta 300  
 tttgtgttgc ttggatatga ctgcgaggaa ctggcaatct actgctgctt ccaaagggga 360  
 gccttggaca ctggcaaaag gttgccatac ttttctccct atgagtgaag gaatacccaa 420  
 agatcgcat c 431

<210> 1065  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-E5  
 <400> 1065

cccacgcgtc cgacgagaca agtgatatgg aagatatatt acaaagagaa gaggttagaa 60  
 aagcgttatg gaatgccgtt ttgccagaa cgagacaggt ggacccggtg ttgtgggatt 120  
 cagtagtaaa agttgtggag gaaagaataa tagaatattt aagaaactgt cctagacagc 180

aagctaatat agaagacttt gagacgaata ttgtatttga aaaggaaggt ccaccagcaa 240  
 gtcttgacca agttataaaa tatttgctag agaggaagga gctgggtcca gtaggagttt 300  
 ttcaacttaa gaatgttgcc atttgtgata attcgacaaa cgtagcatcg tttttagcca 360  
 gtgcattcaa gtatcctttc gaactgctca agcagacctg ca 402

<210> 1066  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-E6  
 <400> 1066

cggacgcgtg ggcttatgag cattcgtcgt ctggaagacg tgatgggcga aagtcttacg 60  
 agatacgagg ttttcgctgt gagttgggtt atttagaacg tgcagatggg tcatgtaagt 120  
 tagaacaagg gaaaacgcag gtcgttgccg cagtatatgg tcatctcgaa gtaagaaagt 180  
 gatacttcta atagtacgcg tataagactt tctcttgat taggccagag gaagaaccga 240  
 acttccggac aggacattta tagaagtttc cattcgacct tgccaaggat atacatctga 300  
 ttatttgagg cttcgagAAC gtgaactgga agaagttttt attgctaccg ttgctactga 360  
 gttacagccc cgaagctgtg tggcaatcat tcttcagatt gtagaaaacc atggaagcct 420  
 aatgt 425

<210> 1067  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-E7  
 <400> 1067

ggatagtctt tttgcatgcc ttgccatttt gaaccctgta tggagcctga ccctctcaac 60  
 caccgacct tagccaaatg gcgaggttac tatgctccta atcgteccag tcaactacaag 120  
 cgtatttttag ttacaggagg agccggtttc atcggttccc atctggtgga ccgccttatg 180  
 gaagaaggga atgaagtaat tgtactagac agtcttttta ctggaaagaa gagcaacttt 240  
 tccaagtggg tggataatcc aaagtttgag tttgttcgtc acgatgttac ttttcctat 300

caggcagaag tagaccagat ttatcacctg gcatgtccag cgtcaccagt tcattacaaa 360  
tacaacgcta tcaaaacggt aaaaaccaac gtattgggga ctttgaaaat gtt 413

<210> 1068  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-E8  
  
<400> 1068

cggacgcgtg ggcggacgcg tgggcggacg cgtgggtgcc tgggattatt gaagcgatat 60  
gtggaggact tgccattggc ttttccgtcg cggcaaatgc tgttttgctc ggaagagtaa 120  
ctggtattag tggcatcggt ggtggtatcc ttgcgaaaca gtcagggtttt ggatggagac 180  
tatcttttct tggaggactt gcaggagggtg gttgggtatt aaggaagttt ttgccgagta 240  
cagttcctat cgtatctgga cttgtgtctc cctcagatt ggctcttgct ggtgctttgg 300  
ttggctttgg cactcgatta ggaagtgggt gcactagtgg ccatggtgta tgtggactag 360  
gacggatgtc aaagaagtct ctcgtgaatg tgctagtgtt tatgac 406

<210> 1069  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-E9  
  
<400> 1069

cggggtgttg taatggcagc gtcttcgacc aaggacaaac aggaacctac gcaaagttgg 60  
ttcgctgccg atgaaagtaa gcgttggtgt gagaaatttt tgctcgttgt gactcctttg 120  
agcattgctt ctttgatttt gggattgatc ggcagcgggt ggtacaagta ttgtggaaaa 180  
aacgaatatt tgctgttctc gctgctcatg gcagcaccat gtttcgtctt tccattgttt 240  
ttctgttgcg acgaagacaa aaggagacct ttttcgcagc gcttttgggt caaggccaat 300  
ttatggaatt ttattttcgg atatatcgga aattattttt ggacgcacta tttctatcaa 360  
ctactcggag cacactatac ttttgagtcc tatcactgga ataatgtacc gattccaatg 420  
ttat 424

<210> 1070  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-F1  
  
 <400> 1070  
  
 gtaacaacta tcagcaccac taaaagatgg ttcgtatgag tgtattagcc gatgctttga 60  
 aatccatcgc caatgcagaa agaagaggaa agcgtcaagt tctcatccgc ccgagctcca 120  
 aagtcatcat acgcttcttg caggttatgc aaaaacacgg atatattgga gagtttgaat 180  
 atgtggacga tcatcgctcg ggcaaactcg tcgttcactt gataggcaga ttgaacaagt 240  
 gcggtgtgat atcaccacga tatgacatga aagtgcacga agtagagcaa tggatcaata 300  
 acttgcttcc aagtcgacaa ttcgggttcg tagttttgac gacatcgat ggtattatgg 360  
 accacgaaga ggcaagaaga aagc 384

<210> 1071  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-F11  
  
 <400> 1071  
  
 cccacgcgtc cggacgatga ttcgatgcgg cacaagacag ttgtggtggc aactgcgcgc 60  
 tcgttatcat acaactacta ctgtccatag agtagcagca gaagaagaaa aggaatcggc 120  
 cgggtataaag cccaaacggt tgcacagcc tcttgagtt tatccacaag gaaccaatct 180  
 ggaagaagtg agagaaaagt ggcaaagtga cgctatggaa cttatctcga aagtacctcc 240  
 gatagtagtc gatggctatg tcatagcgtg taatggaggc ggtgggtccat taggacatcc 300  
 aatagaatat attcgtttgg aagcacctta tccttcaact tgcaaatatt gtggtttgcg 360  
 atatatcanc aaagacactt ttgaaaagtg gaaaaaggaa aataacgaat 410

<210> 1072  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-F12

<400> 1072

aggaaataca ggaaggagtt ggtttaggta tgaaagaatt gaagcgaact ctacagtctt 60  
tagcttgcggt taagattcgg gtactgaaaa aggagccaat gagtcgagaa gtggaaaatg 120  
aggacacctt ttatttcaac aaagactttc aagataagcg atatcggctc aaaattaatc 180  
aaattcaagt gaaagaaaca ccggaagaaa atcagcagac gacagaacgt gttgtacaag 240  
atcgtcagta tcagattgac gcagctattg ttgcgcatcat gaaaacgaga aagtctctaa 300  
cgcatagtca gttgatgtcg gaactttatg agcagctcaa gtttcctat caaccggcag 360  
atttgaaaaa gagaatcgag agtctcattg atagagagta tttagaacga gacgcagaca 420  
ctctcagct gtatagatat 440

<210> 1073

<211> 144

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-F2

<400> 1073

gctatgtaaa ggaacataag tcttacaagc tttccgatgg ttctgtcgtg attccattga 60  
acaatatcgc gattggcatt gaaaccgatc ctattgaata agaaaagcat tgtttgtttt 120  
gttcgagaaa tggaatgaga aaga 144

<210> 1074

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-F3

<400> 1074

agagagagag atattccgcc tatatcggta tatagatata caatatgagg ccgacgttag 60  
ataaactagt gtcaatggtt cgcaagtgtg tatctccgtt aaaagcgttg gtatattcta 120  
ctatccatcg tcgactgaga aggagagaat atcgacggga ttggattgct cacatacaag 180  
ctgctgctcg tggtcacggt gtacggtacg caagatttgt gtacgtttta tgaataacc 240

aaattctcct caatcgtgaa atactgagcg aattggcaaa gacagattcg gcgacgagtt 300  
ctagtttatt gacatgggtgt gcaagtacaa tcaacgttat cgatttagga aataaagtat 360  
aaaacagtga ctagataata gttggactct ttttccaaaa gccaaaggat 410

<210> 1075  
<211> 377  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-F4  
  
<400> 1075

cggacgcgtg ggcttggctg ccgaagttgt aagagcacat acggagttgc taatagcaga 60  
actttcgga cagttgatac aacgagctag tgctaccgat tcttctgtcg gaaacatttt 120  
gaaacagtgt caaacgctgt ttcttttaca ttgattgac aaacagtcga ttttcttgcg 180  
ttataattgc ttatctcttc caaacgcaca aaagttgcat cgagtactag tcgaactttg 240  
tatgcaactt caagagcagg cactgccttt ggtggattct tttggaatag cacctcatct 300  
attagctcct attgcctttg attggataga acataacagt cgtagtaa at tgtaagttgt 360  
taattcgaac aagaaaa 377

<210> 1076  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-F5  
  
<400> 1076

cccacgcgtc cgatttggtg tttggggctt gaaaagggtg tgaaagtatc caagtagaaa 60  
caaataaggct gggaaaatac tactgagttg acagcaactc tattttatgt ctttttactc 120  
cagctctttt ctttcttcgc tagacacggt tgaagagtct agtaggggac tgaagatagc 180  
aaggctctgct tcctcgggtc ctttttcgat cgaggaagtg tctgggtactg gtaaatcact 240  
cgtcgggaag cagaagaggg gggaatattt aagccaaagt ctgaagccgg aaatatttag 300  
aggagactca acaagaacaa ctggatgctc agatgaggac ttgtttggga agaagccttg 360  
ggtgaggccg cctctttcta agatttccat tgtgtcctca tgggaagtaa ctga 414



<210> 1077  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-F8

<400> 1077

ggatgtgaat atgtggaaag cacaacaacg agagcgttg ttttttggga gagagttttc 60  
ggcacaagag gataggctgg aagacgacca aaaagggaat gaggaggaag acgacaagga 120  
cgatgggtgt gatgtggact ataaaaactt gcaacgactt gtgaaataaa atcttttttg 180  
ttgtgcacca acatgttttt tgtgtagaat tggatagaaa caagtaggag gatggaagaa 240  
aacgtaatag attttccttg tccaagtgc gtagagggtg cactggaagt tttatttcaa 300  
gactttcctg gattagacgt cccgggtttt ccttggttg cgttacagag ccaagtacaa 360  
gccctcgtga aagacaatag caaagtggag cctgaacttc gtcatttaat aacc 414

<210> 1078  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-F9

<400> 1078

cccacgcgtc cggagactta tagcgcttca tgtcagttgc atcttttgtt tggcttactg 60  
gtccaactgt cacacatgat aataaggaga ctcgtaatac ctgttgtgca cataccagat 120  
atggcttggg acgagtagtt tcctttcgga atcataatag gggaccttgc gtggaatcga 180  
gacgacccaa aacacaaggc aggctaaata acttgaccat gatgcccatt ggtgttccca 240  
aggtagctta ccgtgttcct ggtgctcctc aagcagattg ggtagatatt tacaatcgac 300  
tctatcgga acgtattata ttcttaggac aagagattga cgacgagatt tcagaccaga 360  
tcatagcagt aatgccttat ttagactctg aagattatac caagcctata tatctttata 420  
tcaact 426

<210> 1079  
<211> 380

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-G11  
 <400> 1079  
 cgaaactgtt tgctaaacta cccgctattc tcggttttat ccatatagcc ttctcgggtat 60  
 aaggcttctg gtgacgaatt cgttggagga aaactcgagt acaacagtac aaatgcagga 120  
 aaagaaagcc ttggatgaag ctattcattt atgggtggacg aatagtgagt tttcttatta 180  
 ggcttgatt cattctacct ttggtcgcac aagggttcga cagtggatcg tcgcggtgct 240  
 gatacgggac tgggttataa ggattttattc tgacaggtcg gttttcagaa ggagtgttgg 300  
 gcgttcgcat gtccatcacc gaaaacctaa ctgccttaa ctttgactcc agcaacgta 360  
 ccaccacgag ccgacgccct 380

<210> 1080  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-G12  
 <400> 1080  
 cccacgcgtc cggagttgaa ttggtgggaa cacgttgatc tagatggcaa gttgagaatt 60  
 tttttgacac cagcgcagca ctggagtaga agaacaattt gggacactaa tcaatgttta 120  
 tggggaagtt tcgccgtaat tggacttct gtaaagtttt attttgctgg agatacgggc 180  
 tattgtccag tattcaagac aataggaaga tatttaggtc cttttgactg tgctgctatt 240  
 ccaataggtg cctaccatcc aagatggttt atgtgcctc aacacgttga tcccagacag 300  
 gcagttaaga ttcataacga tattgatagt cgtttttcca tcgggtgtaca ctggggtaca 360  
 tttattttga caaacgaata ctttctcgaa cctcctcaac ttctaaagaa agtcatg 417

<210> 1081  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-G2

<400> 1081

ggcaaatacg ggaaagcagt aaaagaagaa agagaaagga aaaaactgag tatcaggaag 60

aaaagaggga gtagatgagg aaagaaagat caaggaagta agagtaagag aaggagtaat 120

gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtaa agcgcgtacc ttttgcataa 180

tgtcccagcg agtgaaagag gaagcaaaaa gaaagaaaaa gcccagaagc caagataagg 240

tatcaaagta aagaaagaag gaaaaggaga agaagagagg gtaggcttag aagcagcaaa 300

ccagagagga aagcggttaa gcatgaaaga aaagaaatcc gaaaaagaag agaaaaagg 360

aagaaagagg accgaatcag ggtaagaggt anaggagcaa gaagagaaga 410

<210> 1082

<211> 214

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-G3

<400> 1082

tgaactatattt caaagatggg aaacccccag agctaaaggt tggatgaagtg ttggtattct 60

ttgcaaacga ctgtaaattg tggaaaagga tgacaaagaa tatcctgagt gggtgtttgc 120

tctcaagtct cgtcgagcaa cggtggaaga tcttgtagaa agggtaaaca agttatatgc 180

tcaaggaggt gtggatgcag ttgcagaaaa tggt 214

<210> 1083

<211> 403

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-G4

<400> 1083

cccacgcgtc cgcccacgcg tccgcccacg cgtccggcga aacaagagaa gggaaagtaaa 60

aggtaagaaa gaggaaggt ttacgagaga aggaagtaga aagaagagag tgtaaggcgg 120

cgtcataata gaaatccgaa aggagtagaa gaaaagagag agaagaaaga aaagaagaga 180

aaagccgtac tgaagaccga cacaggtact cgaggagaaa ggagacccaa attaaggtga 240

gagaatggac gataaggaac taggcaaaag gatatggtat ctgcggtaga acatatgaaa 300

gaagcagcac cgactgttta gcaaaaacac agcactctgc agaaaagaga aaatgtaaag 360  
tataagatgt gcggcctgcc aaatagtaga gaagaaatcg atg 403

<210> 1084  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-G5  
  
<400> 1084

cccacgcgtc cgtgattttg tcatgtcgtc ttcaaagtag tctatcgaga cgttattgct 60  
aaagacgttt cctaaagaaa tccctacttc gtattgtctc gtgtatgcac ttttggctat 120  
tccagtactc gcgctcgacg tgtatttata tcttgccgta ctccacttga actttattgc 180  
ttcaagcggt tggttgatca tcggtactac agtcggcttg gtgcttctag ttacgtcgta 240  
tcataaaact gcatatgcca agtgggtctaa gtcgatcgc acaacagagc aaccaaccaa 300  
gagctctttc aagggttaatt tgtcggcata ccgaagtga gttgagagtc acctatggct 360  
cctggaaaga tcctcgggtca gttacagtgt aatgataaac aacgcaatat ttcaagcctt 420  
cgtattcggt 430

<210> 1085  
<211> 344  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-020-Q1-E1-G7  
  
<400> 1085

ctggaaagtt ccaaggccag ttggtgattt gtgttgtttt ggacaagaag atgaacggtt 60  
ctcaaaagac ttaccaaga ccaggagaga gtggctgtcc tgttactttc aaggctcagt 120  
atgagaactt tattggtgga aagtgggtgc ccctgtcaa gggtcagtac tttgacaacg 180  
tttcccctgt gaatggaaag gtgttctgca aaagtgcgcg ttcaacagct gaagatattg 240  
aactagctct ggatgctggt cacgctgcaa aggataagtt tgggtgcaatg acttttgaac 300  
aaagggcgaa gttgttgaac agaattggctg atgctattgg acaa 344

<210> 1086

<211> 175  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-G9  
 <400> 1086  
 cccacgcgtc cgattcgaat tatcattaag acagatgcaa atgttaacgg cgctcatatt 60  
 ccaacattgt tacttacctt cttttaacgc tatcagcgtc ctttgatga acatgggtcat 120  
 ttatatatag cgtgtcctcc actgttcaag ttttgaacaa ggaaaacttg caaat 175

<210> 1087  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-H1  
 <400> 1087  
 cccacgcgtc cggtccttgt gtccatcctc ccaacttgac gacaatgtgc ttggtgcaac 60  
 actatatcga tgaaaacggt atttcctatt acggctttga cgctttttgg aggtgggtac 120  
 tagacgggttg tccaaaaagg cctagtgaag aggaagtact gcgtcgaagt cgcaagtctg 180  
 gtcagtttgg gccacgttcc agtgctgctt ccacacaaca agggagagct ccaagtacag 240  
 atatgagcgc ttggaacgcc atggcagagg actactatcc tcgaagaaag aatcagcgag 300  
 caacggatcg agtggagatg gtaccgaact tgcagaaacc cgggacggag catcagcaac 360  
 cgttgttgaa tcaaggtgac gaaaacgtt 389

<210> 1088  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-H10  
 <400> 1088  
 gcgtcggcat atgaaaatca tggtagacac taagcttaag gacggtgcta gtgctgctct 60  
 ttggacttgc cgcctatttc tctatacagt tgtgtagca ttttcagcaa caataattgg 120  
 acttgatgga aggaaggcag ataacatatg gaacgatgcc ctatattatc atggaaaagt 180

ggtgaacttt tgtgcatatt cggcttcgtc tgtttttgaa ggtggcgacc atggcgcatg 240  
 taaatatgtg atggcttttg cttctatcag cttgatttta gttttctttc tttgggtggc 300  
 ctcttttgtc gacgcattgt atccaattct tacaaagttc tggtttgtgg agcttggtat 360  
 caacatattc cttactatgt ggtggttggg tgggtgaatt gtggtgactg c 411

<210> 1089  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-H2  
 <400> 1089

attgaactat tgttggtggt ttcaaagttg tctataacaa catgtcagac aaaccagcca 60  
 ttgttttggg caacggttca ggaaactgta aatgtggtat agcaggagag gactctccaa 120  
 aggcagtatt tccggctatt atagggaaac ccaagcaagc cggagttatg gttggaatgg 180  
 ggcaaaagga agaatatggt ggagacgctg ccatgtctag gagaggcatt ctcacaatca 240  
 aatatccaat cgagcatgga attgtaacta actgggacga catggctaaa atttggcatc 300  
 atgcctttta caatgaactt cgagtaaacc cagaagagca tccagtgtt ttgacagaag 360  
 cccctttgaa tccaaaagca aacagagaac gaatgactca aataatgttc ca 412

<210> 1090  
 <211> 247  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-H3  
 <400> 1090

gcccaagtta cgaagaacta tgaatgaatg ccacgataca agtttcatca gccagagaaa 60  
 gtatacaaga atttcgtaaa cttcgccagg gagttggaga actatgcata agaaatagcg 120  
 atagtctaac ggtgagtcag ctcacgtcac gaaagaagcg cgttcgtttc ggtagatcag 180  
 ccatacatgg atggggtctt tatgccatgc aagatatcga gcctaattgag tttatcatcg 240  
 aatatgt 247

<210> 1091

<211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-H4  
  
 <400> 1091  
  
 cccacgcgtc cgaagagagt ggatagagag taaggaaaag atagggaatg taatggtaat 60  
 aagtaaggta atgtatggag aaaagatgat aggaataatg gaatgtggaa tgatgttaat 120  
 gttagcaatg atagcagtaa taatgatggg ggaaggagaa tagagaaaga aggaggatgt 180  
 aagggagcag gagttaagaa gatgggagga agtgataaga agaaatgaat gaggattcaa 240  
 gtagagcagg agaactacgc ataaaaata gccatggtct aacggtgagt catttcaagt 300  
 cacgacgaga agcgcgttcc gtttcggtaa atcagccaat aactggatgg gcgtcttaaa 360  
 gcaaaacagg ggggcccccc caaa 384

<210> 1092  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-H5  
  
 <400> 1092  
  
 gaagaccgac acatgtactc gaggagaacg gagacccaaa ttaaggtagag agaatggacg 60  
 ataaggaact aggcaaaagg atatggtatc tgcggtagaa catatgaaag aagcagcacc 120  
 gactgttttag caaaaccaca gcactctgca taagagagat gatgtaacgt atatagtgtg 180  
 cggctctgcca catagtagag aataaatcga tgatagtgaag agcgagtagt atatgaagta 240  
 tagagaatgg cggtcctaac agtaaggatc caaaggtagc gaattaaata cacgtttgaa 300  
 aggcgtccag tatgaaagga gaaacgagtg tatcactgtc tagtcgtcca actcagcgaa 360  
 acagcaataa ctggtaaaat gc 382

<210> 1093  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-H6

<400> 1093

aagtgatatt atcaaccaag gccgaactat ggaggcattt gggttgtctc cttcttatac 60  
gatagatgaa gaaacgcgag acctggaaat tttcgtatctt acttcctatc aggacgttat 120  
ctcttttagag aaagtagtcg ttactgtaga gaagcctcgt gtagtttctg tgcgtgtgaa 180  
ccctaacaat cccattttctc tttctagtgt caaaactgca tcgctacaat tgcattttgt 240  
ttgtttgaat gacggtagct agtggacgat atatatatat atacatcggc tttgtgagat 300  
tgagttggat gtaggggagt ctctttagt gataacttta tcttttctgt accgaccact 360  
tgaattttca ttggtgaaga aatgtcgaaa gccacagttg agacgtgccc a 411

<210> 1094

<211> 400

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-020-Q1-E1-H7

<400> 1094

agcaaggaga ggcagagata accctcgaag aaggactccc tcacgagact gtgacatctt 60  
cacaagagac aaaagatgaa ggcccggaaa caaagccaaa ccgctttgca attactggcc 120  
acacagagga ggaaatggat acagagctaa gcaagcttga tgacgagaac aaccggctgc 180  
acaagaaaag attacttact tccacggctt ttggttaacc taaacatttt atatgggtcc 240  
ttgcatcggt tgcgagcatg ggaggaattc tgtatggtat tgaccagtct ttgataagtg 300  
gtgctgggtat ttatatgcca gttgacctac acattgacca gaatagagaa gacatgggta 360  
ctggattttat gccactccgt ggagtanttg gtgccttaat 400

<210> 1095

<211> 366

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-H8

<400> 1095

agaaaatcgt gctgcaaatt tatattcttc gcctcacaca aaagtgaaag atagaagaaa 60  
ttcttctcga tcggatgctt gatagtagct ggatagagat gttctcttaa gattcgtggg 120



atctttcaaa caaactcgaa acgaaatcga cggcaaatca aggtatacga aagaacgtag 180  
 atagaagaga taaaggatct acatccaata atatttggtg tcgtcgaatt gcttggcaat 240  
 ggacaagggtc tacttgtacc gattctcaac ccaaagcttt aaataattga agaaaattgt 300  
 aaaatgcgtt ccctttttga acgaagtggg gtacaactga tcttgacatt tgttctctat 360  
 aagctc 366

<210> 1096  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-H9  
 <400> 1096

cccacgcgtc cgcattgaaa atcatggtag acactaagct taaggacggg gctagtgtctg 60  
 ctctttggac ttgccgccta tttctctata cagttgtgtt agcattttca gcaacaataa 120  
 ttggacttga tggaaggaag gcagataaca tatggaacga tgccctatat tatcatggaa 180  
 aagtgggtgaa cttttgtgca tattcggctt cgtctgtttt tgaagggtggc gaccatggcg 240  
 catgtaaata tgtgatggct ttggcttcta tcagcttgat tttagttttc tttctttggg 300  
 tggcctcctt tgtcgacgca ttgtatccaa ttcttacaaa gttctgggtt gtggagcttg 360  
 gtatcaacat attccttact atgtgggtggg ttggtgggtgc aattgtgggtg actgcaaagc 420  
 gaccttctag tg 432

<210> 1097  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-021-Q1-E1-A10  
 <400> 1097

gcggcattcg acgacgcctt cgagctggag cagcgttgag taatttctga aacacaaata 60  
 tgcgtgccaa gtggaaaaag aagagaacac gacgcttgaa gcgcaagaga agaaagatga 120  
 gacagcgttc caagtaacgg aagaagcctc ggacgtctga gttgaataga gttcctaaaa 180

cgtgggaaaa ctctttttgc aactctggcg cagtgattat atcctgctac ggaagggtga 240  
 aagtgtttcc gaggattgtc cgcaagttat gataaaaggt tcttgtgggt tttgttttca 300  
 acttgtaaat gccacttgtc agtcataaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 360  
 aaaaaaaaaa aaaaaaaaaa ataaaaaaaa aanaaaanan aaaaaaaaaa aaaaagggggg 420  
 ggcggcccaa agggttca 438

<210> 1098  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-A12  
 <400> 1098

caaggataaa agaaacacgt tttctgataa caaaactaaa tcacaatcat catttgga 60  
 atttgaaaaa ggtctggcgc actataggtt gattgctcaa ttcacatgc ttgctatgtc 120  
 agaaactctt cgatatagac agacaaatgc aattcattgg cagtccttat aggcctctt 180  
 ttcagtga aa accctggtcg tacacgtcct tactctccgt gcctatacat ccacctttca 240  
 caaattgggt cttttgcaaa tgtgcacaca actgttggtcc tgccccacat ctgaaatgcc 300  
 ctaattgcca ctagtacc ca ttctctcaag gcaactttatg gctatcagca cctatgttta 360  
 ctctctgctt ctcacgctc tgtgcaaa 388

<210> 1099  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-A2  
 <400> 1099

gggagaaatt ccctgagttg cgccatgtcg agtcgttgga gcaaagtgc agcagaagag 60  
 tgcacctttc ttatatgcga tgttcaagaa agattccgct cagttattta tcagtacccc 120  
 agtggtatcc atgctgcgaa gatattgttg gaagcagctg aactattcaa gatacctgtg 180  
 atagccacag aacagtatcc ccgtgcttta ggacatacag tggaggaatt ggattgtcaa 240  
 aagatgaaag tgtatgagaa gactgtgttc agtatgatgg tacctgaagt agagaaaaac 300

ctcttggAAC actcgttgag aagaactgct gttattgtgg gaatagAAC acatgtctgt 360  
gtattgcaaa ccactttgga cttgttgga aagggttatt cagtgcac 408

<210> 1100  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-021-Q1-E1-A3  
  
<400> 1100

aggtaccagt ctagcattcc cgggcccaac ctacgcgaaa aatcaccaag gggaaatcaa 60  
tttcccaacc cgggaatcca aatgggccct tttggcccaa catttaaccc ataaaaagag 120  
ttaactcggg ggtatgccac acctttgaaa acggcagaaa acggggaacc aaattttgat 180  
gatttggtaa aaaatgctga aaagatacag gcaagattca ggaaaattaa cactttaact 240  
attcaagaag gtcaaagact tgtaaaacca ggtttgaaag aacttattgc aaatagacac 300  
cccgagccgt atataccacc ttttgctccc ggaggaacag catatcagag aaacggtcct 360  
tgtcctccag aggatgtgaa cgatctacta ccacctcgg agagacgcat tcggtagaaa 420  
ggagccatcc tactt 435

<210> 1101  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-021-Q1-E1-A5  
  
<400> 1101

ctccattgac tacaaagggg gtggaaccaa cccctcaagc gtggtggaga gacgagctag 60  
ataaaaccaa aaaagatatg ggaggattct ttccggtgtt gttttctttt gcggttggtg 120  
ctggagtggg tgtgtatgtg gcacaaaact atcgcgttcc gaacgtgcag tgggtggtgc 180  
aacaaccac ggatattgtg aggagaatgg aaagacaagc acgcaagtct caagaggaaa 240  
aatagtgaag gaagaatgtt ttttttggcg ccttgtggag aagaacaaa gctattgctg 300  
gggaatgaat ccatatccaa ttatttatag atatatatac atatatatgt agcacggtta 360  
tttgtggttt ccaattcttt ggaaataaaa atgctgtagt tggaat 406

<210> 1102  
 <211> 335  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-A6  
  
 <400> 1102  
  
 gcgttgtgat cgagatgtcc atggaactcg caatatctcg ctgcgcttca tgagcgaata 60  
 aatggaaatt attttatcgg taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaata aaaaaaaaaa tacagacaaa 180  
 aaaaaaaaca aaacagatat aaataatgaa aatacaataa aaaaaataat aattctaat 240  
 aggacaaaat atttaaataa gaatgtactt actgaatcct agcagaaacg aaacatatat 300  
 atcattaacg aatgaaacaa aaatcaaata tttag 335

<210> 1103  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-A7  
  
 <400> 1103  
  
 gttgcaaaga agaaaacatg tcaaagtttg ccttgccctgc attgccttat gactacagtg 60  
 ccttggaacc acatatcgac actatgacta tgaacgtaca tcacaagggc catcaccaaa 120  
 cttatgtcaa caatttgaat ggtgccatac aaggggaaca tgggggtcag ttcaagggtc 180  
 tctccatcga aaacatccag aggaatgctg caaaggcacc tgatgctatc aaggcagctg 240  
 tgagaaataa tggcgggtgt cactacaatc attccttggt ttggacactc atggcaccca 300  
 caggatctgc aaatagtgc cctcacggtg agttgaaaca agctttggaa gcagagtttg 360  
 gttctgtgga tgagtttaaa aacaagttca atgcagcagc tgccgg 406

<210> 1104  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-A8

<400> 1104

caaagaacaa ctcgtctcgg tgttaaaaga gtacaagcat attcaatatt taaaagaaaa 60

gataagacag agacaagcta cttcatttga ccacgataat ccacaacatg aagaaacgct 120

gttcaagttg tgggatttgt tacttgtttc atctccttca cctgcagta gaaagagtga 180

ggagtggaaa aaacttggtt tccagggatt ggatccttgt acagacttta gaggagggtg 240

tttactggca ttgcagcaac ttgtatattt tgcagaaacg agaagagagt tggctttaca 300

aatgttgaaa gaagcgagt acagttatcc ttttgcttgt gttggtattc attgtaccgc 360

agctattgtg caacttgtcc atgaagacta tttggatata ttg 403

<210> 1105

<211> 275

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-021-Q1-E1-A9

<400> 1105

ggttctagtg ttttctttgt tttgtgtgtc cttgttttct ttgcgttatg catgataatt 60

acttgatata taatgtcgtc acgtgagata tagtggtaca cgtttgtatc gtgagcatan 120

acaacaggta attcctaaaa aaaggaaaac tttcaatcat aaaccgaaaa aaaaatttat 180

tcaagttaac tcaaggagaa tatatttcac cggaataacc tgaacaaca ataatgcctc 240

aaagtgggtg ttttcccaaa aggttccatt tatag 275

<210> 1106

<211> 426

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-B1

<400> 1106

ggccaaccaa gcgtccggga agggggagtt acaactaacc tcccggcaac agactcaagt 60

tcgaaatgtg gggggaaggt atctgggaga gaatccaaaa caggaacaat tactcgaaaa 120

gcctaaagaa gatacaatat cccacaaaaa tttgtacgag ataactcgtt tggggcccaa 180

agatgctcct ccaccgtttt ggtcccttgt ggcaagtagc acgtggaaac tgccacctcc 240

caagtgtcca tatgacaatt atcaacgtcc tgcaatacta gacaaaagac tagaagctct 300  
 tcgtgagcgt catgaaagaa agcagtatag ggaactaata caggacttac ctagtcttgc 360  
 gccaaagcgaa ccatcaacct ctgcctcttt taagtcattt aggggaacagt tgacacttgg 420  
 cttgca 426

<210> 1107  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-B12  
 <400> 1107

cccacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccgaa acaagataga 60  
 agaagagtat atcaaaactat tacagaagct ttcgatgaaa ccaaccatca agctcaagcc 120  
 tttgagtttc atgtgaaatt attggagacg tttaacggcg aaaacgaaga tatgttgctg 180  
 agcatagagc catatgcagt gaaggcttgt aaggaagcta ttcgacagcc gaaattgttt 240  
 cgttttgatg aacttttga tttggacgcc attcaaaggt tgaagaatac caaagagcac 300  
 gcgttgcttt tcgagttgtt acaaatttc gtttctgaca agttggaagc ttttgtggat 360  
 tatgtggctc gcaatcgaga gtattttgat cgagcagggt tcgattatga agcttgtttg 420  
 aacaagatgc ga 432

<210> 1108  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-B5  
 <400> 1108

cagatctatc atcatacgtt caggttgata ccacggttga agtctccaca tcttgcattc 60  
 ctctcacata ccatctttct atcatggccc aactcgatgc attctatcca ttgctgttgt 120  
 gtggcttcct agattcacgt gttgaatgga aagagcctgt ttgccattaa agacaacagc 180  
 ggaggtgcat tgcccattta ttggttgag atccaagcgt cgtgttctgc caacgtataa 240  
 cggatatgcg tccatagcac ctatatatcg cacttgcagc tacaatgtat gcaatgtact 300

gaacaaacgg ggtggattgc agtcgatcct ttgcaggaaa cgacaagagt gaaaagtggg 360  
 atttgtcacg tattgtttca ctggtcacta tgtaaaagac 400

<210> 1109  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-B6  
 <400> 1109

ttcagagttt ctagacaata acgccggcca ttgtaataca aaatatggaa ctgctgcggt 60  
 cgtaaatttg ttctgacaat atgtcagact cggataggac ccaatataaa gaacaagctt 120  
 gtcctcggga agagaggaat ccacgaaaga aacgtgctcc tcgaggagaa tttgataggc 180  
 aagtagaggc agttcgtaaa gaaatgcaag caatcaaaga gtcactggaa gaaacggaga 240  
 ggaaacttca agaggcagag aggccttcgta atttacatgg ctgagagtcc aaagaagaag 300  
 aaggtgacgc gcaacagaca ggcacttctt cagaagagtt gaaacgttga ccgttgctag 360  
 ttgtgttttt ttggcaaagt cagaagagac acgaatcttg tcttt 405

<210> 1110  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-B7  
 <400> 1110

acggacgcgt gggatgcaca ggaaattaaa ctttacagac ctgaaagtgg ttgaccctgc 60  
 tttcaaaagg ggaccaactc ttagaatctt aagaaatggt attattttgt cggtttttga 120  
 tttaagggcg cttgtatttc atgaaaagggt acaaataattt gacccggaac accttcaatg 180  
 ttcccaagtt tcagagcagc ttacaacaag tctgcagtca gtcctcaaagt ctggcagcaa 240  
 ttttattttt gaactgtttg tgttagacac gcttctgacc ttggttaagca aacaagctac 300  
 cgatcctttt gaaactttat agcgttcgac tcttcaaatg ttcaatagaa cccccagaat 360  
 gaatgtggct cagtat 376

<210> 1111  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-B8  
  
 <400> 1111  
  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgcgac aatatgggtca acgcttggat 60  
 gggcgctgca ctaggcttgg cagcacaact gcttaccaac ggttcaagac tacttcccct 120  
 ttctcggcgt ccttgggaac acttggctgc gatggcactc ggtgcttaca tcggcaaaat 180  
 atggggagaa taccaacatg acaagattga aagaaaggag tatcgtatga agagagatct 240  
 tgaacgtgca agaagagaaa atcaaatgcg ccttgaacaa gttgcagcag agaacggagc 300  
 ttgaggagtt gtgtatgtat gaaaacaagc ctcgtgaacc aacaacttgt cgtgggtata 360  
 ttttatatat tgatatcaat aataaacaca caacttgggt gtactt 406

<210> 1112  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-B9  
  
 <400> 1112  
  
 ggggatacta aactttggca aataccaaac agcctttatt cgaaagtcca acaaagcaat 60  
 ttgacttgtc ctactacaa aagactttct tttgtattgg tccggtttgt ttaagaagtg 120  
 gctatggatt aggtttggga attggctgtg ggctgggctt tggctcgtggg tttgctttga 180  
 tggacctgtc tagtcaaggt gtcggtagca ccggtggtat tcctacgcag ttcttgtatg 240  
 gtttgccttt tggacattac gtttctgggt ttttgcagaa cttagcccga aaatttcctg 300  
 gaagttcaac aggtattggc tgtggttttg gtttgggcta tgggtgttga attggtctac 360  
 agtatggagc aggtggtcgg ctttcttttg gaaatagggg acatttatat aattttgggt 420  
 cgactcactt tgaaagac 438

<210> 1113  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-021-Q1-E1-C1

<400> 1113

cggggcccaac caagcctccg gggggccttc aaccccggt aatgcggtaa acaaaagggc 60  
caatgagggt atacaaagt caaatagaga aaaatctgaa tatgacgaaa aactttccgc 120  
tttgcgacac tatgtcttga aaaacagttt tccttcaagt gcgagtgact atgatgaaca 180  
tagttgctct cttcgtggta cagtatggaa aagtctcatg ggagtgggaa agttagatga 240  
aggagaatat gaaagtcttg ttctcaaagg tccctccaag gaacatctgc gtattcgaga 300  
ggatgctttg cgaacttttc gtcatgatac tgagtttcaa ttgcgagttc ctgaggataa 360  
gttggttcga gtattaagt cctttgtaca ctggagtga ggaactcett tttattatcg 420  
ag 422

<210> 1114

<211> 453

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-C11

<400> 1114

atggattcca ggatgtgaat aactccactt gtaacactgt cccaacataa agaagtagaa 60  
aaagatcaca gaggctagcc aacccatgga gagaacctgc aaggacgcca atcaacaatc 120  
cgactcagca tgaaagccca ttcccatgcc atcaattagg cgccttgga tccacgggac 180  
aattcgatcg ttcgattgga cgtctatctg agatagtcta gaagttgcct agacgggaact 240  
caggaagttg ttccctaggt agaaaacacg gaaaagccag aaacaaaacg gaagactact 300  
tgtatagaat agaaactttt caaagtagaa gtagcgaaag atttaggcaa ccgtcaattt 360  
gcagagttgt aagaaccttc ttacgctcgt aacttatgct ttacaagacc agattgttta 420  
gaaacattct tacgcacaga acgcttggtt ttc 453

<210> 1115

<211> 433

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-C12

<400> 1115

gggtgcgtcg cactgcagag atggaaagac tatcgctgt gttttcaacc aacaagtcac 60

ccaataaaga agtagagcac tggatgaaca gtttaaaaga agtggagcaa gtgcttgatg 120

ctgtggaacc aaagttgacg tcctcaggga ccaagtggag agtggtagct cagcatatca 180

aggatatttg tggagacctt aatcaaactt ttaacaaaga agaccctcgt tatgaagtgg 240

ttcaggcagg agcgagtgc gcacacgact ttgacgtcag atatttggac attcacaagc 300

acggaagaga agtttctcga cttttggaga aaatgcaaaa gtatcgtcaa gaaatcgaag 360

aatcaaaaa agagtacaaa gagtcagaca agtatagaga aagatacgac cactacaaag 420

tgaagctgga caa 433

<210> 1116

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-C2

<400> 1116

cccacgcgtc cgaaaagatc tcttggaat gtgtgcaggt gttcaagatc ctttaaaagg 60

tctctttctt cgtggatatt ttacccaaat attgcgaagt aaactttcag atacggaatc 120

gggtctaact actacggaag cagtcgaatt tctattgtgg aactttgaag aagccaatag 180

actgtggatt agaatgcaat atgaagtcaa taaggaaact ttaagaagaa gcgaggaaag 240

aagacaagta gaaactttgg ttggattgaa tatttcaca attgcacatt taaatgattt 300

gacggtatct ttatattcca gtgtcatatt tcctgccatt tcacaacaaa tttgttcctg 360

tcacgatcca atggcacaag aatatttggc agattgtggt gtcc 404

<210> 1117

<211> 250

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-C3

<400> 1117

gaatctaact gagtaaggaa aataagctta acctattttg gctggggaag taaagcctaa 60

gaaagagtaa attaggcaag caaaggcatg agagaagtat aatagcagaa gcatgcttga 120  
 agaaaaagaa agagatttca gaaaggggaag aaaagtcagc tatagagaac aggtgaagga 180  
 gaactcaaaa agaggagagc accgaacgat ctaagaagaa actttggggg taacaggtta 240  
 atgtggtgtt 250

<210> 1118  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-C5  
 <400> 1118

agattccata tggtatggcc aagtcttgca cttattccgt tctccttcg acagacaccg 60  
 agaggggaaa ttacattat atcctgtatt tcataaacac agcatttgac tcagtggcat 120  
 aatcgtaaga agtcgtcgtt gtggatgaca ctattcccga tggaaccttg gacgtggcaa 180  
 agaaaacttca acaaataattt ggcaccgaaa gagtggtttt ggcgccgcgt caagtaaaac 240  
 tgggtttggg ctctgcagat gttcatggcc ttcagttcgc aaaaggaagc tttataatca 300  
 tactggatgc tgatctatca catcatccca aatacatagc acaatttatt tataagcaac 360  
 gagaatgcaa ttttgatatc ttgactggga cgaggtat 398

<210> 1119  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-C6  
 <400> 1119

gacgatggac aaccaacggc gttggaagaa attgcggatg tcgtaaaaca agcgtatgag 60  
 caatatttag gggagatatt ggtggacagt gctatttata aagtcactta tgacataagt 120  
 gtttctttac aagatgtgtt gagcaccatc cagcatttga atgtaccgaa tttgtccaca 180  
 tcggcaggta ctcgagtatt taccgcgagt gaatatatca aagctatagg ctatctccga 240  
 ggcaatgtga gccatgctat tcacaaaact ccgcacatca tcgtgcaaac ctattattca 300  
 ccgttgaatc catccaacca aaacaatctt ccgcaatgcc cagatatggc tggtttggtc 360

aacaacagca acaaacatag tggaaatcaa acaactgttg gaaca 405

<210> 1120  
<211> 399  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-021-Q1-E1-C7  
  
<400> 1120

gctcgcagcg tccttgccgg gggttttgta ccacggaaca caaggggacg gaacctttta 60  
tgggaaggaa cagatgttgc aaccaaataa cgggcctgga tcggagcgac gcgatacagc 120  
ttcacatatg gggttctctg gatatttttc gagtggagtg ccaacagcag aaggctactg 180  
tgaacctatg aggttttcgc aactcacacc ctcgacttgg ccgggattaa aaccccagtt 240  
tggcaacgta gcaggagcgc cctctagtct gccaaatact tcaactattc ctctcagtg 300  
gtcagccttt cttggtcggg tttcagatga gaatccacct gctgtttctt ttgactcgag 360  
tgacccatcg ggaaggata agttaattta cgacctaga 399

<210> 1121  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-021-Q1-E1-C8  
  
<400> 1121

cccacgcgtc cgcccacgcg tccgccacg cgtcgggctg tccattttct gggatgtcgt 60  
cgcaaccogt cttagtgtt tgcgacttcc aaaatgatat tatgggtttc gttccccctg 120  
agaagaagga agccgtcatt aaaggagctt cgaaactttt gaactttgcc cgtgagaaga 180  
agatccctgt agttcatgtg ggagtacgtt ttagaccggg acaccctgaa gtttcgaaac 240  
gaaacaagat gttttctctt gtttcctcca gaggcccat ctttgtgaa ggtactcctg 300  
gaagtacca cgtagcagag ttgaaaccaa ttgaaggatga attcagtggt aaaaaagaa 360  
gagttggagc acattataat accgatctta caaccattct tagcgg 406

<210> 1122  
<211> 414

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-D10  
 <400> 1122  
 ggtggcaata cattgtggtc gtgttttgggt atgaaaagtt gtttgcaaga agaaaatatt 60  
 caaccaaaca acgcaacact tgttactacc aatggttggtc ctcatgaaaa taatatactg 120  
 accaaagaga tacgctgggc tatacagacc ataattgcgc tgataacttg ccaatggaat 180  
 tcggtacaac aaccagttgt gttgtattgt tgtaatatac aaaatccgca tatttgtttt 240  
 acggatggat ttttatgtct atcttgtgtc tatcttgtgt gtagagaaga aagccacgtg 300  
 tcggaacact acaagttttc aggtcatagc gtatatttcg atatgagctt tatgaaaata 360  
 tattgttggtc gttgcaaagc atatttagcg gatcatttat cttcctatat tatt 414

<210> 1123  
 <211> 348  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-D5  
 <400> 1123  
 gtggatcgca gccatgcgaa accttaccga agaggaactc cacgcagttg ttgaaaagct 60  
 tgcaaaatatt attggaagag atatccagac attggtacaa ggacctttgg aagattgttg 120  
 ttttcgggta caaaaggata gagtggtttta tgtaagagaa gctatagctg ctgctgcaac 180  
 cagtatagct agagataatt tagcaagttt gggtttatgt gttggaaagt ttacccatag 240  
 tggtagattt caagtgcata tcaactttttt accatatattg gcgccgtttg caaagtataa 300  
 agtttggtta aagcctcagt ctgaaatgtc atttttgtat ggcaacca 348

<210> 1124  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-D7  
 <400> 1124  
 cccacgcgtc cgatcaacat ttgaatgcat ttgatcgoga aatgcatcat ttggagagtc 60

gacatgcggtt ctgtaggcct catttgcac aatggataat gatacagcac aatcaagaca 120  
aagtaattgc ctttgaaaaa ggagatgggt tgctaattgt acttaatttt catccgggtga 180  
aatccttttt cgactatacc gtgggagtggt tgttgccagg aaaatatggt cttcaattgg 240  
attcggacag cctgaatttt gggaggattt gatcccatag aataaaatgt ggagcatttt 300  
actcgttcct gtaaaacatc atgattgtcc tcattcactc caactctatt tgcccaatcg 360  
ttcctgtcaa g 371

<210> 1125  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-D8

<400> 1125

gaaagaagag agtgaaggtt ggcgtcataa tagaaatccg aaaggagtag aagaaaagag 60  
agagaagaaa gaaaagaaga gaaaagccgt actgaagacc gacacaggta ctcgaggaga 120  
aaggagaccc aaattaaggt gagagaatgg acgataagga actaggcaaa aggatatggt 180  
atctgcggta gaacatatga aagaagcagc accgactggt tagcaaaaac acagcactct 240  
gcagaaaaga gaaaatgtaa agtatagagt gtgcggcctg ccaaatagta gagaagaaat 300  
cgatgaaagt gaaagcgagt aaaagatgag gtatagagaa tggcggtcct aactgtaagg 360  
atccaaaggt agcgaagtaa atagacgttt gaaaggcgtc cagtatgaaa g 411

<210> 1126  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-E11

<400> 1126

cccacgcgtc cgaggagatt gaaagatcat ctcgtgggtc catgacattg caacgagcag 60  
tgcaacaggt tatcaatcaa aaatgggtta ctactggcaa aatgactcaa accaatactt 120  
ggaaagaata ttgtcagtat gcattacaaa gcggtagtgc attgttgcgt gatagctccc 180  
tcgactttcc tgaatatagc aaaagtcttt catggctcat gcgtattcgt gttggtgggt 240

ggagttcctg ctcgaggctc gccagaatcg gtatatggga tgaacaatgg aagactcggt 300  
 gtccttggtg tttgggtcaat gtacctgaaa cattgagtca tttacagcaa aaaacgtccg 360  
 ttactctcat gctcaacctc atcgcagctg cacaccaag aaaccaatca attgccaaca 420  
 attacagt 428

<210> 1127  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-E12  
 <400> 1127

tgcattgtgt ggccaaagct ttccaagttg gtcctaaaa aggaatggca aaaagcctac 60  
 tcctatttat tcactttaac tggaatggca acactgtgga atacaaaggt ttactgtgaa 120  
 aacagttcta cgagtctaca agaagtagaa agtgactttc gagtaagaaa ggccattcta 180  
 cagtcccgag caaaagcctt gtatcaacaa atcaggtgtt tagagtgtgg aaatgggtcaa 240  
 actattgaat attctggagc tcctactgca aatgaaatga gacaactaat atgggatttg 300  
 ctagtagaag gtcactctga agaagatatc aaaggtgtta tcgaagtga atatggccac 360  
 aaggtttgga tgactccgcc actcgatata cgtcgtcttt tcgattttag tttgcctttc 420  
 ttcggagtag ctgtttgtat 440

<210> 1128  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-E3  
 <400> 1128

aaagaaaacc tttaagcaat aaaggaaaga aatcccaaaa aggataagaa aaggagaaaa 60  
 aaaggaccga atcagggtaa gaggtacagg agcaagaaga gaagagagaa tgctgggtgg 120  
 agtagcgaaa caagagaagg gaagtaaaag gtaagaaaga ggaaagggtt acgagagaag 180  
 gaagtagaaa gaagagagtg taaggcggcg tcataataga aatccgaaag gagtagaaga 240  
 aaagagagag aagaaagaaa agaagagaaa agccgtactt aagaccgaca cagggtactcg 300

aggagaaagg agacccaaat taaggtgaga gaatggacga taaggaacta ggcaaaaagga 360  
tatggatatct gcggtagaac atatgaaa 388

<210> 1129  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-021-Q1-E1-E5  
<400> 1129

gagccccaag gtatcttact catttgcaca cgatggagge aagttttacc agaaacatgc 60  
aaagctcgag tcagatattc caacggagtt atacaaagge tgtgggacag ggtctgtttc 120  
caatggtttg ttagatactt tctttacaga acgcgttget tccccatctg atccaactgt 180  
tttaaagaag aaggagtctt gtctcttaag taacgtatca ccacatttta tatgtcgaga 240  
ctctgatcag aagagcgtgt attcatgcta cgaacaaagt agtcctgaaa tgagtactag 300  
cctagtagct acgagttcca acacgtcgaa agtttcaa attcattcc cctttcaagg 360  
gacttcagtg ttacctgcaa cgagtaatct aagtacagct 400

<210> 1130  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-021-Q1-E1-E7  
<400> 1130

cccacgcgtc cgaggtatca aagtaaagaa agaaggaaaa ggagaagaag agagggtagg 60  
cttagaagca gcaaaccaga gaggaagcgt ttaaagcatg aaagaaaaga aatccgataa 120  
cgaagagaaa atggtaagaa agaggaccga atcagggtaa aaggtaaagg agcatgagga 180  
gaagagaaaa tgctgggtgg attagcgaaa caggaaaggg gaattaaagg gtaagaaaga 240  
ggaaggggtt acgagagagg gatttagaaa gaagagagtg tagggcggtg tcataataga 300  
aatccgaagg gtttagaaga agagagagag aagagcgaag agaagacaaa cccottactg 360  
aacaccgaca ggtgtactcg aggaaaaagg agaccaatt t 401



<210> 1131  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-E9

<400> 1131

gttggtggaa gaatgctcgc aaagggatgat gtgtagtcct ttgagcagtt tagctttttc 60  
actttttattg ctgttggtta gttacctgaa ggaaggggga gctctgttac tagaaagtaa 120  
agagtgtgga ctcggaaaga taatttcaca tagtggggct gtcttttggtc ctaaccccg 180  
cgaatttccg ctttcagaga aacctttgtt tctccttacg gcttcaggag agggcataaa 240  
tgaatttcct atttattcca gtcagcaaaa cgaagctctt gtcgccc aaa ggagtacggc 300  
agaaggaatg gaacatggag tgtcagagga gcgtcgtagc ttgcctgtag aaacagcgag 360  
atttggggag tggtaagag cagtgaagaa gtggaatttg tttggagtaa atgaatttga 420  
aacgcatact agtaaagac 439

<210> 1132  
<211> 467  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-F10

<400> 1132

ccaagccttc ggacggatta cctcaggagg atcctaacag aacaaggcaa tccgtttaca 60  
acaacggcag aacgagaaat tgtccgtgac atcaaagaaa agctttgtta tgtcgcatcg 120  
gactttgatg ctgagatgga acgatctaaa acgccaggcg tcatcgataa gacatacgaa 180  
cttcctgatg gacaggtgat tacgggtgggt tcggaaagat tccgctgtcc tgaagtccta 240  
tttcaaccct ctttaattgg catggaatca gaaggcctac acacagttgc ctatcagagc 300  
atcatgaagt gtgacatgga tattcgaaaa gacttgatg gcaatgttgt actttctggc 360  
ggttcgacca tgtttcctgg tattgctgac aggatgcaga cggagctaag cagcgtttca 420  
ccatcgtcaa tgaagataaa gattgttgct ccagcggaac gaaagta 467

<210> 1133  
<211> 447

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-F12  
 <400> 1133  
 tcggccaaac cttagggttg gaaggaaaag gcttaccocg ggaaaggaga ctcccctgaa 60  
 gactggggcca agccggaaaa atgtcacgcc tgggcaaaac ttgtgggaat tcaaaacggg 120  
 tttttgcccc tccgcaataa aaaattccta agccgagggc attgaatttc aacttgaatg 180  
 actatatatt acaagtatta ttaaagcgag agtatgtatg gagaaattca cagattgctc 240  
 aagttacgac gctgaacaat tgtaaacctg attatatcgt taacctgagt gtcttttcca 300  
 tggaaagaaa ggtgacgcaa cggatatcaa aaactttttt ggtgatatgc tttacttgat 360  
 gttgagaaga tactcgagaa gaatattgaa atagcaaact tcattgccac aaaatgaatg 420  
 caactacgaa cattgatatt gaacagt 447

<210> 1134  
 <211> 186  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-F2  
 <400> 1134  
 ccttttcaaa gcttgaagac tatttattct gtactgtttt agaggtttct tcagaggttt 60  
 tttgtactag tctttttcta tgtttcgtag tgggtgaaag gtccttttca caatagcggt 120  
 gtcatgaccc gccaatctcc acatcttcaa ctgctacctt gtgcgcgtat atataagtat 180  
 acagat 186

<210> 1135  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-F4  
 <400> 1135  
 ccggcccacc cttcgacgga accttggggg tactgagttg gtgactgcct ctctgtagcg 60  
 gaatggaaaa cggcgtacaa ggcaacgttt ttgctcaaac tgctgaagca gtaaacgaga 120

attccattgc tggagacacc aagggtactt ttgcagtga agtatggttg gctcaaatgc 180  
 tgaaaggtgg agttatcatg gacgttgtaa ctctgaaca agccaaaatt gcagaggaag 240  
 caggtgcttg tgcagttatg gcgttggaag agattcctgc cgatattcgc aagtccaatg 300  
 gaatggcaag aatgtccgac ccaaagataa taaaagccat aaagcaggca gtgtctatcc 360  
 cggtaatggc caagtgcaca attggacact ttgtagaagc tcaaattctg gaagcaattg 420  
 gagt 424

<210> 1136  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-F6

<400> 1136  
 gaaagaggaa agggatgaaa tgcagagatc tctagagaaa ggcaagaaag aaaagaaagg 60  
 aagacacagt aatgaggcg agaaagcata ggaagtgaag cggattagga acccgtgtag 120  
 tctatgcagt aaaagaaaga atgagtaaga aaaaaggag tcattccacc aggggagtaa 180  
 aggcgcaaga aagaaacca aagcaattga cgggaatcgg aaaaaggggt ggatcacgta 240  
 aattaatccg atataaaccg agaaccttac ctctccaaga agtggttgca cggctgtcga 300  
 aagaacgtgc tgtgaagtga gagaacgtac gagaaagcca agtgaggaaa agaaggcaag 360  
 tagagggcgg cccgagaaag gagagaaaga ggaaaggat gaaatgcaga g 411

<210> 1137  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-F9

<400> 1137  
 tggatattcg catagaggg atcgccaatt ccaaaaaaat gttgttgatg gactcgctac 60  
 aacataccgt ggactggaag gaagagttga atcaagaaca acaaacttgc aatttgata 120  
 tgtttgccaa gcatatacaa gacacttcaa ttccacatgc ggtgatatgt gactgcacag 180  
 catcgacgt cgtcaccgag aaatatgcca gttgggtggc tcaaggaatt catctggtga 240

ctgcgaataa gaaagccaat tccgggttcct tggagcgta tattcgtctt agagaggcac 300  
aagcagcagc caactcgcac tttctttatg aagcaaatgt aggagctggc ctgcctatca 360  
tattctctct aagagacttg ataccacag gggataaact g 401

<210> 1138  
<211> 318  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-021-Q1-E1-G1  
<400> 1138

gtttttgaag caaaaggaat gtcgcgtata gtaactgaaa atgaaggatga ctgcaaaatc 60  
ttccaaaact ctgtaacaaa aaagctatcc aagattttgt ggttgccac agtttgccggg 120  
catcgtgctc gtagaagaac gcagtttgcc attgaactat taggagacac acaacaacat 180  
ttcgggaacc atcgagtga aagagcagta gtttgagaat atcatattga agaatttctt 240  
gcaggccttg ctacattgtg tcttgccca agtcgacgta aagtttggtg tgtattaaaa 300  
gctatgaaat gtttcgac 318

<210> 1139  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-021-Q1-E1-G10  
<400> 1139

cggatccagt cgaccagcct cgccaagcct agcggacctt gggtttgggg ggccactctc 60  
ggctcgtcaa tgtccgtcaa ccgcctttca gattatgcac aaacaaagaa caaagtagtt 120  
atatgggtcc cgttggtata atacatcgag aagaatgaga acatcccgat caactagaaa 180  
acacaatagc tcaagcgctc gtagatcttt ccagcgctc ctccgagccg gaatacaagg 240  
acctcgtgtt ttagatgcc aaagaatttc aagcaacatg agagaacaaa gttgtgggtcg 300  
tccatattcc gttgagatgg aaccatcaat atcgaaaagt acacggcaag ttggtgcgac 360  
agttggaaaa gaagcttgct gggaggacgg ttgtgttggg agcaagaagg aagatattgc 420  
ccaaagcgaa gaaaggagca cgaagagcct c 451

<210> 1140  
 <211> 470  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-021-Q1-E1-G11  
  
 <400> 1140

```

gtcgggaattc cagggctcct ctatccaaag tgataggaac gttgttcgaa catggatggg   60
cacgcagtag atttgcgaaa cctgaagctt atctcgaaaa gtctactgag aagaatattg  120
gtgcgaatag agtagattca actgtcaaat cttcttcttc tgttgccca gtgcgacaag  180
gcgagtttga ttggatggaa ttcttgaaaa catattctga ttttgcagag tctgaagcaa  240
gtgaatgttt gtatgctttg aagagattct cagagagtga gatggaagta gtcgatacga  300
gtatgttgat ggagttacat gtcgctgatt cccgcaagcg tgtcaaaatc gtagccgata  360
tggcacgtta tgctagagag anacgtcaat cttgaattcg ttgttttgtc actttcttgt  420
acgaagcatc tgttactatt caacatattt aataaaatgt ttggaatgtt   470
  
```

<210> 1141  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-G2  
  
 <400> 1141

```

aaattgttct tcgatggcac tttgtttttg ttttggttcc ttgtcctctt atcaaccact   60
ttctagtagt gggcgacatt cttctgtttt gaaatcctat tcttgaaca ctcgatattc  120
atgtaaatat attccaagac aagcagctgt atttcaaag aaaacttttg aaaatgagac  180
tactccagtg aataatacta gtaaggaaca acaacaaca gaccttgctt cttccaacgg  240
aaactctcct cttctactg cggaagttc agaagaagaa caaacgaggt tgggtgactcc  300
ttctccaaaa agatatggag caactattga tatggatgga aagagcaatg tttgggcagt  360
agaacctaga gttacagtgc aatccgaaga tgaacgaaa aaagcca   407
  
```

<210> 1142

<211> 373  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-G5  
  
 <400> 1142  
  
 ggggttgagag attcttatga gaatgacttt ttggaaaaga aaaagaggaa tgccatttcc 60  
 atggatttta gtatggatga ccaaattattg gaatggataa aggtttaagt gtctccttca 120  
 cctccaaaaa aaataaaaaa aaacaaaaaa aaacaaaaaa aaaaaaaaaa aataaaagaa 180  
 agacaaataa caataacaaa aaaacaaaaa aaaaaaatac aaaaaagaaa acacaatcaa 240  
 aaaaaaaaag gggggccccc ccaaaggtt caaatctaac atacccttga aacaaatttc 300  
 aaacccttc aaaatggcca ccaaattaa tttcacgggc cttcttttaa aaactcctta 360  
 acgggaaaaa cct 373

<210> 1143  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-G7  
  
 <400> 1143  
  
 agcttgtttt tcaattgttt gttgttggtt gatactcaac gacgtaatga gactcactca 60  
 ttttctcttt gttttgtctt ttgtagctgt tttcctcgta gctcatgcag ttcccgttgg 120  
 agaagatgca ttcagtttca gtcagacttt tggaaatgct tctgcttcag gcaacgcctc 180  
 tgttattcca gctacaacca agatcccaa gttagaagta actagtagtg cctcatcaaa 240  
 ggacaatgga aaagcagctc aagtagactt tgcagattac tcaaagggat atccttcgcc 300  
 tagctatattt tacgctcctt cttacacatc ctatgtggaa tttcctcaat atccatccta 360  
 tccatcatgg ccttctttta atgagcagcc tgcctttggt g 401

<210> 1144  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-G9

<400> 1144

gtacagaaaa tgaccgggaa agtgcagagt acttacttgt gtgagagaca atggaaaact 60

ggagggttct tagttgtcct ttggtttcaa tacatacttg aggttttata ggaagaaaaa 120

acatctattg gaagctactt gttgttttta tttaggcttg gtgaaaagta caacaatttt 180

tttggagttg ctcgttcgac aattctacgg catttggttt cttcttctcc ttctctctct 240

ctgcgctatg ccagccttga tcatcaccac gaatgcctgg ttcaaggacg aggtactcaa 300

tgaacttttc aaaagtatgg cagaagcctt acatagaccc gaacacttta ggctcctgtc 360

ggtgtcacta aggatgcaat gatgatattc gggactcaag tgagccttgt gccg 414

<210> 1145

<211> 402

<212> DNA

<213> *Cyanidium caldarium*

<223> Clone ID: LIB190-021-Q1-E1-H10

<400> 1145

ggaggagtcc agacaattgt ctttgttcaa acaaagagtc gattgttttt tgccgacact 60

tgaagacagt tggaattgga taaaagagac gaggggagca catacagaag agaagctttc 120

cgaggagaat tttgtctgca atagtatgaa gcaagtcgtg actgacacaa tagacttgct 180

agaaagagta gagcagagat gcatagaatg ggacaaaaag acagaaaagc tttcaggaga 240

agtgaacaaa gaatatttgt cgtttttggc gccttttgtg tatcagcgct ttctcgtgtg 300

tttgtttact tggaacgctc tgttgattga atgttttcat tccaatttct ttgtagtcca 360

aaccattcga gggtttgtaa cactgactgt tgggtgccct gt 402

<210> 1146

<211> 416

<212> DNA

<213> *Cyanidium caldarium*

<223> unsure at all n locations

<223> Clone ID: LIB190-021-Q1-E1-H11

<400> 1146

gcaatattct gcagaaagaa agcgagaaga atgggaggtt gtcaactgtc cagaagcaga 60

gaaagaggaa atctatgata ttctaaagga atatggcctt actagagctc atgtaaagag 120

tatattggag cattttgaga agaacccaag taaatgggta gactttatga tgaaatttga 180  
gctcggtttg gagaaaccgg atgtttcgag accttggaag agtgcgttat ttgtgggcct 240  
ttcttatatt attggaggta ttattccgct ggtgccatac tttttcattg aatcctccat 300  
tgcggcgcta aaagtcagtg tggattcac ccttttggcg ctttttattt ttggttttgc 360  
aaagggcat gtagtagctc ataatagatt ggctctgct atcganacga tggatga 416

<210> 1147

<211> 454

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-021-Q1-E1-H12

<400> 1147

cgcgtccggg aaaaacaaat ggtcatatat ccacgtttcg aatttaccag tctcagctaa 60  
caatagtttg gtttctaata gctgcacacg ctcttgaggt ttctgaacct tgtgcattat 120  
ttcttcaagt gttcggactt tggaacgagt tggcactact gctttctctc cattggatac 180  
cagttgaaga agcatattca gatgttcatt gagttttttc cgacttcttt ttgttgcaag 240  
attatgtttt gctcgtctcg tatctgtgaa ggaagcttgt tgggacaaca tcaacggaaa 300  
tggaagaaag aatccgttgg taattcaact gatttttggg tggacgacag cacatttgaa 360  
agcagttgct ctgtagtatt tgtctttgag ctagaagaaa acagtgagga aggcagtgat 420  
atgattgatc ctgnngaagc tcttcttgat tgga 454

<210> 1148

<211> 440

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-H2

<400> 1148

ccgggccgag ccacgcgtcc acggaagcgt ggggaaagat tcctctcatg ggaaaaaatg 60  
cgattctgtt tgggttattt tggcgcgcac acgcagtctt tgttgctaga taaagatgac 120  
gacctctacc gagcaacaac aagaaacaac aacaactcca gacaacactt tgcaaccgca 180



ccataaccac ttgaaacctt gccggaaccg cgcgcatctc taccgccatc ccaatgcaca 240  
tactccattg ggcggtatca cgtgtcacga cgaaaatatt atcaaagcac agaggtcggt 300  
aatatttcaa ctggtgaaac aagtagggaa aaacgtgttg atgggcagag acctactcta 360  
cgtcacgttt cctattcagt gttgtgaagc ggaatccgcg ctccaaagat ttgcgcattc 420  
cgcttcgtat gcaaagtttt 440

<210> 1149  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-021-Q1-E1-H6

<400> 1149

gcaaaagaga gaaagagaga gaaatggcaa cgacgagtgg aagaggagga ggaagtggcg 60  
gtggtcttac cggacctcca aaaccaccac ctacgcagc aatacaagat ggacctctc 120  
ctggtggtta tccaccggtg gatgttcgta gaaacttgcc caaagttggg ccttccggt 180  
ctactttgtt gataggcatc ggactgatca ccatctatgg gttttgggga gcgaccaa 240  
cagctcaacg tagaagaaga ctgaaccagg aaaagtatca aattcgattg gctattacgc 300  
cgtatttaca agccgaacag gaccgtttgg aagtgaaaga ggtaagtaaa gtgtgtgggt 360  
gagganggca anggacgcat atgagaaata c 391

<210> 1150  
<211> 153  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-H7

<400> 1150

ggccaagcga cgcaacaagc gacgcgtcca gaatttgcca cagtctggat cagaatcaat 60  
cagtacagca tcattgcca cttgtcgata catcagaata caactgtttc cccccgtttt 120  
gtgacaatat atctcgttgg tgagccaaca gac 153

<210> 1151  
<211> 417

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-H8  
 <400> 1151  
 gcaaaagaga gaaagagaga atcattaagc ggaggaaaag aaaccaacgg tgaggtccat 60  
 tttggagtac tggttattac atggaatctt gcaaagaaaa cgttccagtt tctgaaaact 120  
 tgggtgctgcg agagcataac cgagaagatt caaagggtat tgccaaaaag gattcagtag 180  
 acaaacagga ggatacatat gcatatacag gaaggaaggt agaaagcaag gatcaacatc 240  
 aaacagcttc ggagacccaa gtgccttcta tgttttgttc aaattcctcg cagcgctaca 300  
 ctctattccc aatacgttac ccggaatat ggaaaatgta caagaagcac gaggcttcat 360  
 tttggactgc tgaagaaatc gacctgtcag gcgatttggg agattggaaa aagttga 417

<210> 1152  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-A1  
 <400> 1152  
 ctttcaacta gtcttcttgt aatttgctgc catgggtctt tccatctcca agttattatc 60  
 gcggtttattt ggaaaaaaag aaatgagaat ccttatggta gggcttgatg ccgcgggaaa 120  
 aactaccata ttatacaaac tcaagctggg tgaaatcgtc acgacgatcc ctactattgg 180  
 attcaacgtg gaaaccgtag aatacataaa tatcagtttt acggtgtggg acgtcgggtg 240  
 tcaagacaag atacgacctt tgtggcgcca ctacttccaa aacaccaag gtatcatctt 300  
 cgtagtggac agtaacgaca gatagcgttt cccgaaacac gggaggagct tcacaagatg 360  
 ttgtcacacg aagaattgcg agatgctgtg ttgttagtgt tttgcaacaa ac 412

<210> 1153  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-A10  
 <400> 1153

gggaagttat ggcaaaaaca cgtgccagca gcagcggtaa aacgtgtgta gcaagcgtag 60  
 agcagaagaa ctgggtgtaa aggtcgagta gtagagtaag tgtaaaaggg aaaggaaagg 120  
 agagaaagag gaaagggatg aaatgcagag atctctagag aaaggcaaga aagaaaagaa 180  
 aggaagacac agtaaagag gcgagaaaagc ataggaagtg aaacggatta ggaacccgtg 240  
 tagtctatgc agtaaaagaa agaagtagta agaaaaagg gagtcattcc accaggggag 300  
 taaaggcgca agaaagaaac ccaaagcaat tgacgggaat cggaaaaagg ggtggatcac 360  
 gtaaattaat ccgataaacc gagaacctta actct 395

<210> 1154  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-A12

<400> 1154  
 cgtgttcgat tggagagaaa catggaaata gtgaggcaag ctctgaaagt cgatggctat 60  
 cctcagattg gcatagatac gttgttctgg gacaaccgcc cgtatttacc cctcctcctt 120  
 gtgcttcgaa agatgaaatt aggttacttc gacaaaaaca tttagaatcg ttgaagaacc 180  
 ttactccgga ggaacgtcta gagagaagaa agttgcgaaa caagcaaat gcaatattat 240  
 ctaggaaaaa aagatacgag aggcttgagc ttctcagaag acgaagagac gaagttaaac 300  
 aacgactcca gcaactttct acggaaatgt cagagttgag gaagtatgcc cgtgaacttg 360  
 gtgagagaca tgacaagtgt ttctctctat tacggtccat acgtcaacta actgcggggg 420  
 tttaat 426

<210> 1155  
 <211> 320  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-A3

<400> 1155  
 aggcctccgc gacaatttaa cattgttttg gcacagtttt ttgggggggtt tcaccatgtg 60  
 ttttctctcg acaaaaactg accactatct acttcttgtg atgtttttaga ggtttttcga 120

aagtgtgtct taggagctgt tgtacatcca gtcattggtgg ttgctgtatg gttccagtga 180  
ctacttgaag agggtttgtc actttcgcgc aattcaccac agcttcaact tgtagatccg 240  
cacatctaca tcactatatt aacatataat tgtggtgtaa tagaccgcaa attgagtggg 300  
cgagatcgat tgggttaaag 320

<210> 1156  
<211> 362  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-A4  
<400> 1156

atcaagcgtc cgctcactca tccgcaagtc tgaggtagca cttgaccagt gatcattgtt 60  
tcgactggtg acaaaagtgc aatacgcttc gtcattcttt atcggcttta cgaaaaggag 120  
ttgtcatgtt gggaccgcga ggatggtgaa gtaatccga ttaagatcca gccacacgat 180  
gctcagggtga aagtcagtgc acggtgctga cgtgcaaata gctcgattga cttgggtata 240  
tgggcgacat atgaatcgaa tcattcgagta gcaggttccc gccgaagttt ctcccaggat 300  
agctgcagtg tactttgagt accagtttta gcgggtcaaa cgaatgatta gagggctcgg 360  
gg 362

<210> 1157  
<211> 368  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-A5  
<400> 1157

gaacttgtgt ggatttcttt gcatctccct cgagatgacg agaatggcat ttgtaacctg 60  
cactggcttc actgtaaaaa aaccgaaaca caataatgcg aacataactt cacacagaac 120  
caagattatg gcttccaaca gtatttctgc cttcgatgag cctgatatgc agaaagtgc 180  
ctttcatcct tcagaaagct accagaacag aaattttgca caccctttac agaaaacgtg 240  
gtcaggagag ttatctacaa gtggtgcttg ggagcgtccc atatcaacga gttttcttga 300  
ggaagtagtg gttcctccgg agtcattcaga agctttctca cgtttgaga gagatttagc 360

tatggaac

368

<210> 1158  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-022-Q1-E1-A6  
  
<400> 1158

ctccaccaat ttggtgccct atttgactgt tttaaaaacg ctcaccacac gattgagaga 60  
agttggaatt cagttaattg actacaatat cgttgagatt ttagtagagc ttatgaaagg 120  
tgtcgaaatg actgtgaaaa tacttgcggtg taaaatctat gcgaatttaa tgcattttta 180  
tctcttgcaa gaagaccaag cttcgaaagt tactgcggtt ctgattatgc cgcttcttca 240  
tagaatgtta tcaaagaacg aaagaaatgt ccaattggaa ggctgcaaga tgttaagtga 300  
ggttgcttct attggagaaa tctatcagag acaagctttt gactgcaatt tggttcatga 360  
cttgatagaa ctgggacggt acataagtgt cgctgatgta naagctgcc a gattctgtt 420  
acaagcc 427

<210> 1159  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-022-Q1-E1-A9  
  
<400> 1159

acgacaacaa cagcactata caagtatggt ttactgcact caacggaact tgcaagatag 60  
ttatactcac agctgtggga ttctacttgg cgtacagggg cagactgaac aaggaaatgt 120  
ccaaaaatat tagtagcatt atttttgaga ttttacttcc ttgtctctta ttttcctcta 180  
ttttacgtac tttggtgaat gtgggcttat atgccctgtg gtatattcca cttatggccc 240  
tggtatatct ttggatgggt tgggtattgg gtcagttggt atgtaaattg acaaaaccgc 300  
cacctttttt tagaagggca tgtatcgtn cttgtgctct tggaaactcc aatcagttgc 360  
cagtattgat tatggatact atgtgcgggt tttacccttc ttttcaaa 408

<210> 1160  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-022-Q1-E1-B1  
  
 <400> 1160  
  
 ccaggcctac ggttgcagaa atagttttca agtatatgat gatgatgttt ctagtcacaa 60  
 acattttggt caccgaatag cgatgccttt tgttatgttg gacaacatga aaatgccaaa 120  
 agatatggaa tagaagaaga acaaggactc tttattcaat atctttatca acaacgtcct 180  
 tgtc gatggt tgatgagaaa tgtggaatat gcgacgtggt ctctctgcta gtctttcctt 240  
 ggctatatct atctacatcg atatcgtagt aattgtgttt cttgtgtgtg ttgtgggttt 300  
 ttttttcgcc gataagaaat aggaaaaaag gggattttct tatcgtgtga aaaatgaaaa 360  
 tatggcttta ttttcgtgtc tcctttcctc ctctccttg ggtggtcgca accatcgatg 420  
 ccaat 425

<210> 1161  
 <211> 330  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-022-Q1-E1-B11  
  
 <400> 1161  
  
 attttgtatt ggggtgtcct ggaagtggaa agggaacgca atgtgccaaag ttggtgacgg 60  
 aatttcattt atgccattta tccgctggag acttggttacg caaagaaatg cagtctggat 120  
 ctcccaatgg acaaatgatt gatcgaatga tcagaaatgg tgaaatagta ccaggtcata 180  
 ttactattga gttgctgaag aatgccatgg aagaacaaag cgaaactcgc ggtttcttga 240  
 tagatggatt tcccaggaag ttacattaag caggagcttt tgagaagttg gttggtgatt 300  
 ttgagtttaa tttgtttttg gattgtcctc 330

<210> 1162  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-B2

<400> 1162

gtggaaagta gaggaacttg agcacttttg tggatacgac gatgaacaga agccacctga 60  
gccaagttt ctaaaagtca ccgagtcgct ttgttccccg ctttctttta aggaacagtt 120  
ggcctgggct attttatttg aggaatattt gatggaacaa ctaaagaact ttcaaaggat 180  
ccagtaattc ctttcagacg ttttaaggca ccagagttgt tgtattttaa aaggggccta 240  
gagagtatga ggtataatga ctacgttggg acaacaacaa tttttgctgt ttaagaaatc 300  
aaacgttggt tcaagtcaat agtttatgcg gtaaagctga tggagtttgt tccttggtgt 360  
ccaggagcaa agagc 375

<210> 1163

<211> 342

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-B3

<400> 1163

cccacgcgtc cgatggttta catttacaga agcggaaaga ttgttgacaa aagcacattt 60  
tcgacaagcc gtttcacaag ccaaagcaat gtttaacggt tagataactt tgcactggaa 120  
gaaaaaatact cggttctcca tggaatagga acagtatccg tgcgatatct ttgagtacat 180  
ccagtttctg aaatatcttt acaatctcca taaagatatt gtaataaacc aaacgggcca 240  
aaagagtatg aagtaaaaag actacgttgg aacaaaaaca atttatgctg ttttaagaaaa 300  
tcaaattctg tttcaagtca ataatttatg ccgtaaaact ga 342

<210> 1164

<211> 383

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-022-Q1-E1-B4

<400> 1164

atcgacgatg acatttctca ccaaaaaaga tgtggaacat tgtttcgatg tgatatggtt 60

tagcatatTTT gatATCCAAT attCTTgtTT atgtTCgtTg aatgcCTTga accagatgtg 120  
tcgaacctac agcgtgtctg tgccggctgg cgatgactTT gaatttccaa actctccttg 180  
cttaagtGac tgggatctcg ttcattttgt ttcccatagc aacgaacctg tatttcgtgt 240  
atTtCacaag tgcATcatgt gctgctTTTT agaacaaga atagttgtct ttcgggatgg 300  
cctttgtata ctgaaaaatt ccaacagctg gttgtTgtTg gatgctttgc gtgatatcac 360  
anaacatgaa aaaggacaaa gaa 383

<210> 1165  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-B6  
<400> 1165

ggcatttgct tgaaactTTa caaagaaaca acttatgagc gacagtgtt ccattggaga 60  
aacaagagt gtagccactt tgttttcatt gggTTTTaaa actgttcgaa ggcctcgcg 120  
gagagatagt gacgattGca cgctttcgga aggagagcaa ccgaaaaaga ggaaatgcgt 180  
cgagttgtcg agctattcaa gtgatctTgg tctcaatcat aagaaactgg ataaagcgaa 240  
caacttccac aagctaaggc aatctatgga tcgtttctcg ttttccgacg aaaaccaga 300  
ggaagcgatg gaagttccgg cgtctcctga tagaacgcg gaaaggcaaa ttgtttccaa 360  
cagagttgaa aaaacagttc ctctacccc tagaaagaag tttcatagtg ggttgcttac 420  
agtgttgaaa ga 432

<210> 1166  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-B7  
<400> 1166

aaaagatgga cgccgctgtg gagtttttac gaaactgtaa acaacatatt gacaaagcct 60  
tggaaccgtcc ctatctaact tccgactatt taaaagactt tggtcgttct attcattgga 120  
cagaaccctt catattgggg ttaatatgtg ctcaattgat tctggctttt attacagtga 180



aaactagaaa caagaccaac ttgcaaactc catctttttc acttcagtta ttactgtatt 240  
 caatgtgaag aacttgaaca agttagtgtc tgagaattgg aaacaaatag ctagcaaaaa 300  
 ctatttcgac gagaacggtt tctttatatt tgtatttgta gctttaccct tgttggtaat 360  
 tggaaacttt attatgttgc acaatgggta tttggcttta caaactatca atgaaattag 420  
 acgagag 427

<210> 1167  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-022-Q1-E1-B8  
 <400> 1167

tgatgaaacg agacaagatc aagtcttggt atctttccca gtcttatcca gtggcggtac 60  
 aaaatagaat caccgaatgt cttgctttat tacaaaatca acccaacaat attccttget 120  
 atatccaaca atatggaata cccgaagttg ctgggttgcg tgctttgata tggaaactgtt 180  
 gcattgaaaa attctttgcg gtcgattcta ctacctcttt gcacgttgct tgttcacgt 240  
 attgggaatc gatcgacaa tatcagcaac atccaaccga cgacccacta ctggatagta 300  
 gtaccaccga gactgtcgtg gaccatctc tcaaccacg tgccaacagt gcgtggcaac 360  
 aatacttttc caaacaacga ttganaaaga ccattcatat ggatacagtt cgaacgcac 420  
 ccgactggca tctct 435

<210> 1168  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-B9  
 <400> 1168

caacatgagg aatagcgcta tggatttctt tgtatttagc attattttgg caaatgttgt 60  
 tcttactatt caagcagcaa cagttttgga gactttggac tcaactgaact atacagagta 120  
 tcttgacatg gtaaaggctg caggcctgaa ctcgaggttt aacgactctg ctgcgacatg 180  
 gactgtgttt gcagcagaca gtacaggagt caatgccagc ttgggagcaa tgcacttgg 240

tatttcgaat atcgcatctg atgcgacgga gatcagagaa attgctgaat cttatgtcaa 300  
 ccgtagaatt aagtctgatg agatttagcc aggaccaacg atccttacag ctttgtacgg 360  
 aatgactttc actgttgtta aaaattcgac aggtttatth gtggatggca ttacgggtgat 420  
 t 421

<210> 1169  
 <211> 198  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-C1  
 <400> 1169

gctttttgga caaggtcaga cctcaatcaa gtcagaaagg aacgttggtc aaacatgggtg 60  
 tgggcacgcg gaatatctgc gacaactgaa gagtatctca gtaagtctac agacaagaac 120  
 attgttgcca ataggatggg ttcatctgtc aaatcatcat cttccggtgt cacaatgcga 180  
 ccaggttact ttgaatgg 198

<210> 1170  
 <211> 275  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-C10  
 <400> 1170

tgtttttttag ttttcctgga gatagttgtc attttatagc cttaggtagt ttcagagata 60  
 gtagcggcaa cgtttattta tgtctgtggt ctccgcaggg cttataggat aattctcaga 120  
 ggtgaaaaga aattgcgcaa ctacttgcc ttcagacca aaagtggcgc atactactcc 180  
 cttcagcgac gattcttgcg cagagttttc aagggcattc acaatgccaa tcaatatata 240  
 caaaactgtg aaacgggata gagccgttac tagta 275

<210> 1171  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-C11

<400> 1171

gttgggcaat tcattcttta ttgggtgctgc catgtcttat ctcttacctc gtaagtattt 60  
tccatggata aatatatggt tattgaacgt tatagttaga ccttcactca ggttatgcag 120  
ttgaccaagc tattttaagt gaggaagata gagtcgtggt catacgcttt ggtcaggact 180  
ttgacccgac gtgtatgttg atggacgaaa cactttacaa ggcagcagaa aagataaaaa 240  
attttgctgt cgtctatttg gtcgatatac gggaagtacc tgactttaac gctatgtacg 300  
aattgtatga cccttgtagc gttatgtcct tctttcggaa taaacatatt atggtagact 360  
tgggtaccgg aaataacaac aagattaact gggctatgca agacgttcag gaatttattg 420  
atattgtag 429

<210> 1172

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-C12

<400> 1172

cccacgcgtc cggtcgaaga aggaatttac atttggggta tcataacata ttatatgttt 60  
tggggttctg gtatgggacc ttatgcttgg gtactgggat cggaaatata tccaacttat 120  
attcgaagtg aaggaatggc gctagtact tggtggacat acattggaaa ctttattacg 180  
acttattgct tttccaagat gaaaagagca atgactgctc caggaatttt cattggtttt 240  
tatggagggt ttgttactat tgcttggttc tatgcatgt ttatgatgcc tgaaacccaaa 300  
gataagactt tggaagagat tgatgctttg tttccatgt cgatgcctga ttagcgaaa 360  
cataattggg ataatgtgaa gaagacagtg gatgatctct tgcatt 406

<210> 1173

<211> 391

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-C2

<400> 1173

cccacgcgtc cgcccacggt tccgattctc gccgatgtca tcttttcata aaagaaatct 60

tttagcttat gctcattatg cttccgatca cacaactgga aaaggaaagg gagcaataac 120  
 ctttcaattt gagccacaca agcccgcttt cgacttgga tttacgtatg gtccgacaaa 180  
 ggctacaaga acttacgctt cttatagtgc agaacagtct cgtgtaaagc atattggtat 240  
 agagcatagt tttacgtgct ttggaaagcg acagttattg gatgggactt ggttaccttc 300  
 gcgagatagc tgcaacctaa agtatagctt gaatgtagac aagagacatc aactcacaag 360  
 ttatttttgg tttcgaaaga tatcaaaaag a 391

<210> 1174  
 <211> 315  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-C3

<400> 1174

gatgatttta tgtccttgtg gtagtactaa tgtctatgct tggctaattg tcgccagtaa 60  
 cttgtcttcg tcgttcttct tattagtatg agtgaaaagg tggagaatgg tactaataac 120  
 gagttggttag aaaaaccgaa ggttgtgata tttgggtgctg gaggcctacg tggttatttg 180  
 gctgccagac ttgcacagtg tggacgtagc tttgttcacg tcatcgccag aggttctcac 240  
 ttgaaagcta ttcaggaaaa taacaattgc atcgttttta aaagtatcca tggtgactgc 300  
 acttcccaat tggat 315

<210> 1175  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-C6

<400> 1175

cggaacgcgt gggcggtaga gctgcttggc aaaatttagg ccagagcgcc gtcgcccgc 60  
 ccaatcccac ttgtctattg aagcactc aaggagcgaa taaagagact actgaaaaaa 120  
 aaatcatgca aaaaaatcaa cccgttcacg caacatagct gttttgatgt agttgcagtt 180  
 gccattggt atagaacgag cagagttgga gtttgagatg aagtagtcgt tgctcaagcg 240  
 aaacatagtt gactggcatc gagatgacgc actagtgata gtttcttcca atcgcaggtg 300

gaatagggtt tctttaga ggctgacttg tggactgcga gattagtgtg gataaagctc 360  
 ataggaagaa aattccacgt gcttcaagtt ttcgtcttga actggtgaaa aataagggtt 420  
 acttggtgaa 430

<210> 1176  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-C7  
 <400> 1176

cccacgcgtc cgcccacgcg tccgtatcga cggaacgctg aaagcttcgc agcaaattt 60  
 cgaagagata aaaagaagga agatgaaatg cagtttagca gtaataccaa aaacgataga 120  
 taatgacata atgcgaattc agcgatcctt tggtttcgag acttccattg aagcagcagc 180  
 acagtcctta cgtagtatac attgtgaggg ttcattgtct taccatgcgg tggcagtgat 240  
 acaagtacct ggaagaaata ggggcttttt tgcgggtggag acagctttgg cttctcgttt 300  
 agtcgatgct tgtcttattc cagaatttcc tttcaagttg aactcgttgt tgaatcatat 360  
 ttatgaacgg gtacgagtga aaggatttgc catgattctg gtttccgatg gagcagggtca 420  
 tgaatatgt 429

<210> 1177  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-C9  
 <400> 1177

gagatgatgg gagtaataag ggaaggagga gtacactcga taatagggat gggaatgatg 60  
 atgttattag gaagagaaag gagtaaggaa gtaaaggaga tgataaatgt gagtgtgaagt 120  
 gagagtggag tatggagtgg agagaagagg aagaggagtg taatgaagga ggagataaag 180  
 ggagagaagg agataaggga gtggagtgg ataaggatgg aggaggagat ggtaatgata 240  
 atagcatgta tggtagtcca ttggagcaat ttgaactggg atcgctgtat aacatggaga 300  
 tacaaggaag ggaaatacgg acaagttaca tacgagacga a 341

<210> 1178  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-D10

<400> 1178

```
cccacgcgtc cggtaatccg ttgattgggt gtgatggctc ttgtcagaag acatttcact 60
gtgaatgtgc tcctggagat gaaagcgagc gaccaccgat agaatcaatt gagctttatg 120
cttctgacga gagacctctt tggcagtgtc atagttgcac tagtggtgaa gatatttggt 180
tctcatgtgg gcgactaaga cacattgctg atgcgaatga tgctctaagg aaatgtagtt 240
taggaagttg tggacgtttc tatcacattt cttgtgcaca acaggaacca cttgctagac 300
tagcatcaga tggaaacttg tttaggtgtc cacaacatta ctgtgttggt tgtgaagaat 360
cgggtgattc tcgtcctatg atcaagtgca tttattgtcc aagagcttgg catgtccaat 420
gttcacatgg 430
```

<210> 1179  
 <211> 336  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-D11

<400> 1179

```
cccacgcgtc cgcccacgcg tccgagctac cgcagtttca cctcgtccgc ctccctgcta 60
ggcaaagaga caagaagagc attgagttac ttgcaacaag agttgagaga agaaaaacta 120
tcaggatgga gagtggcaaa agaaacactt cgacttttgc gtattgttat atcttcagtg 180
tcttcaagtg gtttagataa ggttgaagag gctgtcaggg agttgggaca ggaactgaca 240
agaggttacc cacgttgttt tgttgctgag aatatgacga gaagagtact gaaagtaata 300
cacgaagaga caagttcaga tacttcagat cctgga 336
```

<210> 1180  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-D12

<400> 1180

cacgcgtgca atcccgttct ctttcttagga cagctcttct agcaacaaag taaacatttg 60  
caactctctg tgggaagtgc aacctgtatg cggtgacctg tgcatacgata agaataatga 120  
gggtgtgaaa aactactctt ttcggagtca atcagttgca tatgtcacgt gacatagtaa 180  
agttttgatg tgcacgcgaa tgaagacagg ttctagttgt ctacattatg tgtaccacgc 240  
tctgtaccaa agcataggca gtattagagc cgagagttct tactatgcag gacaaatgat 300  
ccatttgttt gttatctatg caagtacaaa tggggcgttt ttatgcaggc gtaataagta 360  
ggcatcttca ttcatttcaa gttaaggcaa ctagcagttg ggtgttggtc cacttgcata 420  
tattctccaa ggg 433

<210> 1181

<211> 248

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-D3

<400> 1181

cagacacttg gggaaatttg catatttggc accacaattc aacaattcgg tgtcgcgtgc 60  
tgactacgta tctggcgtaa acgagggagt caatttgcatt tttgggtatga aagttcttca 120  
gtgagaaaacg gactcagctg gatgtgtcca tgccgattat tgctttacag attctaaagc 180  
gcatatcctt agcaaaaatgt cctaacgtgt gatatatgaa acataccgat gcatcgga 240  
tattcatg 248

<210> 1182

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-D5

<400> 1182

cccagtaatg aggagtggag taaacagaaa aggaagtaaa aggagggaat gaagggaagt 60  
tatggcaaaa acacgtgcca gcagcagcgg taaaacgtgt gtagcaagcg tagagcagaa 120

gaactgggtg taaaggtcga gtagtagagt aagtgtaaaa gggaaaggaa aggagagaaa 180  
gaggaaaggg atgaaatgca gagatctcta gagaaaggca agaaagaaaa gaaaggaaga 240  
cacagtaaat gaggcgagaa agcataggaa gtgaaacgga ttaggaaccc gtgtagtcta 300  
tgcaagtaaaa gaaagaatga gtaagaaaaa agggagtcac tccaccaggg gagtaaaggc 360  
gcaagaaaaga aacccaaagc aattgacggg aatcggaata aggggtggat cacgtaaa 418

<210> 1183  
<211> 325  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-022-Q1-E1-D6

<400> 1183  
cggacgcgtg ggcgatgagg aagaagaaat cgagcgcgtg ggattgtcgt gtcctttcgt 60  
ttgtttgtgg aagcgatgac ttcgattctt cagcacttgg gaataacaag accgaaaaca 120  
cccaaaatac cgctgtctct tcaactcagt gatggaactc cttttccagt ggcttgctcc 180  
aaattatata ctgatcgaga cgtggatata tacgcgctta cgatactacc gtttgacaac 240  
gaaagaaagg ctgtggtgag tgctggggac tctgccgctc acgtggttga cttgtcaaca 300  
acacttgtaa ctgtnagtct cccggg 325

<210> 1184  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-D7

<400> 1184  
cccacgcgtc cgcccacgcg tccgcccacg cgcccgccca cgcgcccgga ctgcgtttct 60  
tggtttgtgg tggttgtcgc tttttgtctc tcaagttttt gccgaaaatg gttcaacagt 120  
ggagagcagc aggtcgact tatcttcgtt atgcaaatac atgtgcaaata tttgttcgca 180  
aggcactaaa ggaaccgaaa cgaactgaag cattgtcgag gaccggtttt gagatgacga 240  
gaagcgagtg gaggtaaggc aaggttgtga acagaggtaa gtccacgaac aaaactacta 300



gaacggtgat ttgatggaga caccggcaga gacccttata caagataatg aaactagtaa 360  
cgtcgccaaag aattacaagt gaatgtgttt gttgttataa acg 403

<210> 1185  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-022-Q1-E1-D8  
  
<400> 1185

ggaacctttg cttctaagat taaagttgac ggtgaaaagt tacaagtaac tcgagaagtg 60  
gacagagggt tagaaactct ggttcgttct tagttaaccc ttttatagta ttattatcgt 120  
tattgttggt tttaggaact aagacttcct gctgttggtta cttgtgattt gagactgaat 180  
gagcctcgtt acgctacctt acccaacata atgaaagcca agaagaagcc tgtggagaag 240  
ttaggtttga aggatttgaa cttggagcct tcacatggaa tagaaactct atccgttttc 300  
gaacctccga aacgacaagg tggcaacaaa gttgaaagcg tagccgagtt gatcgacaaa 360  
ctgagaaatg aagccaaagt catctgattt tgaaaacata aagtaattac gtttatttcg 420  
tttcc 425

<210> 1186  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-022-Q1-E1-D9  
  
<400> 1186

cggacgcgtg ggaaatttta caacttgcgt ttcatagttt tggaactaac ttgacatgca 60  
acaaagtaac cttcgagtag tccaatcttc tttggtggca agctttgtcc tcattctaag 120  
tataatctgt gccattcatg cagtaacagc cgatgaaata acaagtttcg agagaggata 180  
ccaaacagtt gcaccaactc agacgcagca atgtcaaaaag atttgtgtca ccgccacaca 240  
aactcaagtt caaagttgta tttatactca gacacaggct ccgttcatgt ctcaatgtgt 300  
cacagcattg ccaactacct gctataaata cgtaacaaaa tataagcagg tgtgctgtga 360  
gcaagaatac gagcaacaga attatcaaca gcagcaggtt tgtcaacagt attgccaaact 420

<210> 1187  
 <211> 278  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-E1  
 <400> 1187

cgcatgcgtc ggaatgtcga tttggttgag tttcgtgtgg tttgcgtaca caattccatt 60  
 gaggacaagt cggtgcttac gttctaggcc ttttgacgca tcaagtcgtt gttcgtagtc 120  
 aactttgaaa ggactcgctc ttttcttcat cgagacatgg aatgtgttgc tagaagtaga 180  
 atagagcctg tcgcgaggga acatacgga gttggtctag actctccaat ggatcgaaac 240  
 gacgattgta attttggtat gataaccagg attgaaat 278

<210> 1188  
 <211> 319  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-E10  
 <400> 1188

gcaaatagga atacatggat ttacaaggac aagccacttg tgaaaaatat accaaaaaag 60  
 gcatcttggtg gacaacgttg gtcgccttgg tcgttggtact agtcacagac gattacctgc 120  
 gaatggttca agtatttata ttgggagtag ttttggttagc tatggtaagc tgtctctatg 180  
 tgttttattgg acacttctat ttccaatcct atatacttgt agggcggtact tttcccctgg 240  
 ccatgggtata caagacatcc acttgtgttt gtccacgccg caaccaaaca caacaataat 300  
 aacaaccatt cttaaccaa 319

<210> 1189  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-E12  
 <400> 1189

caacaataac acgaataata atacaagtat tataactacc aataatagca atgtgagcaa 60  
tcgatgtatt gcctatttga ttgaaacgag caacgacaaa catccacccg agtccacttt 120  
gggtatcttg gaagattgga ccaacagtat tagtggtgct ccacacaatg gacatattcc 180  
tcgaaatata cgattgtctt tgatggcaat ggatttatta caacctttta tttatctttt 240  
gagttgggga ggagaagaag aaaataattg gtggaagaat tggacaagga tgaatatgga 300  
atccacgagt gatgattacc acaagaatgt attgtgggaa agatggcaat ggctgatgag 360  
catggacaat actccacttg tcatcaacta ttcgagtgtg caagaagata atacttgat 420  
gacttggtgg gt 432

<210> 1190  
<211> 443  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-E4  
<400> 1190

ccaggtcgac cacgcgtccg ccacgcgtcc gggatatttc actaccgtgt aacaattggc 60  
atatgcattt ggatatttca ttggccttat tgtggacgtc atatttggtc atgtagagca 120  
tggttggcgt tttatgcttg gttcagtcac tgtgccagct tccctagtaa cttgcggatt 180  
atTTTTcgt gaagaatcgc cgagggtggtt attagcaaaa ggacgcgaaa atgctgcgtg 240  
gaatgccttg acaaaactgc gttcttctga agaattagcc acgcaagact ttgatgtaat 300  
gcgccagttc ttagagaaag agcggcagac aatgaaagag caacctggtc tctttcgtac 360  
gctatatgaa aagccaagtg ttcgtcgccc tgtcatgctg ggcaactgcat taaaaatagc 420  
tcaacagttt ttgtgtgtca atg 443

<210> 1191  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-022-Q1-E1-E7  
<400> 1191

cggacgcgtg ggcggacgcg tgggtggttg ctcaaaaagc aggttgtaag attcctgaag 60

tagatcgtgt cgtcgtttgg ggcaatcata gcgctacaca atatccagat attactcatg 120  
ccagaatcaa aggagaatcg gccagaaaag ttatcaatga tgaaaagtgg attcgagaag 180  
ttatgatacc taaagtacag cagagaggag ctgaagtaat caaagccaga ggtgcttctt 240  
ctgccgcttc tgcagctgct gcaatagtcg atcatatgag agactattgg catggagctg 300  
gtgaccgatg gtgctctgta ggaattccta gcgatggaac ttatggaatt gatgaaggac 360  
tttggtatctc agtgcctgtt atgtgtcctg ntggacatta tagacggatc ttgaatctt 419

<210> 1192

<211> 370

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-E8

<400> 1192

cccacgcgtc cgcggacgcg tcgggttggg caacgcctac gacgtcatcg atcagtgcgg 60  
cctaaccggt cgtgctaaat catacctct cgtagaaacc tacaggtaaa catacggcga 120  
gatctaggta tactataacg caaagaagga attgaacccg atgatcaagg cgatacaaat 180  
gcacatgcgc tcgacaatct gtccatcgca actactcaga ctttactaaa agacatcacg 240  
catgagcctt gcaacgaatt acaagcacta gcagataaca aagtagagga ccaccatcat 300  
acttataaaa ggttcgagaa atatcgtgaa gtacacagcc gatatctacc atcgttaaaa 360  
gcaaaacctg 370

<210> 1193

<211> 348

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-E9

<400> 1193

gcaaatgaga agggatttga gttgaaagaa gagttgccag cttcggtgaa acggttgatg 60  
aatagagagt ctttttccaa aaatgtcaac gaagaaaaga acaatgcaat gaataaggtt 120  
gtcaaaaaaa cagcaaactc atccttggaa taaattttga ttccgtaatg agaattcata 180  
cagaagagga atggaatggc tggaattttt caaagcaaaa aaaaaaaaaa aaaaaaaaaa 240

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaacaaaaaa aaaaaaaaaac aaaaaaaaaa 300  
 aaaaaaacca ccaaaacacc caacaaaaaa aaaaaaaagg gggggccc 348

<210> 1194  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-F10  
 <400> 1194

agatggagaa ggacgagcat caggcagtgg caagggaatt ggctattcgc aaacgactcg 60  
 gcaaagtatt taaaaaaaaa agagagaaga ctttgctact gaagaagaat ataataatta 120  
 tttagaagct tttgaagatg ctgtatatag tttgagtga ggaaccaaca cagatgaagc 180  
 ccaagcaagt atggagagac ttgcaaagta tatcaaagac actagtagag aagaaatact 240  
 catgaatcca gttttgattg tggatgatga gagcgaggac aagaataatg agagtagcga 300  
 acaacaagga gtgacctttg tagatcctgc aagaccagca aagcctatgc ctgctccttt 360  
 acgagacaac agtcctgtgg atgagaagat gcgtgcaaga gcttccggat tcgacgaaaa 420  
 actatgtcgt caacga 436

<210> 1195  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-F11  
 <400> 1195

agcgattgga agaggctaca gtatctgttt tatccgcgct ggattccatc aggcgttttg 60  
 gtctccacta ttcttcttat actgccaatg cctacattat tcttatcaat atctttttac 120  
 aggaaaagga tatttttaagt gctcaacaaa ctgcttcaga gttattagaa atagtggaga 180  
 agattggatt tcatgactta cttttatctt cagatacgat ggggaacgtat ggtcctatct 240  
 cctatgcttc cggtgattat gtggaagcag aaaggaagtt acgtttggca ctggattctt 300  
 tacagtcttg gagttgttcc tatttatggg ttgatgttcc tatgaagcac tgtatgcatt 360  
 tagatttgtg gttgatggat tggctttccc gactattgaa tgctcatggt aa 412

<210> 1196  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-F12

<400> 1196

```
cccacgcgtc cgcggaacgcg tgggggaaga tatgagtaaa gaaagagttc aaagtgcctac 60
accttttgat tggaaaactt ttcttcacca gcgtgcttta ttgccggaag aagtttcagc 120
tcgttatgct ccaagttttt cacgtatatt tggagataac ccaagagtaa ttctaaggag 180
gtcgttagag ttgatgcgta tccctgaaga gcatattcag cttattctca ttgcggtaga 240
gtcgttggat tcgggcattg aatcatagta atagttactg atcattttaga gcattgtttt 300
gcgcatgagt ttctatttga tgtataaaga ttttagggta acagggagtg tagtttttta 360
gccagaagag ccctgcatac at 382
```

<210> 1197  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-F2

<400> 1197

```
cagcgattcc atgttgaaaag agggtagacg tatattgtcc gatctcaagt ttcagggtgct 60
tcaagatgga aaaccccgag tgataacttc ggatcaagta ttcggaggaa agaaagtagt 120
attgtttggg ttacctgggt cctttactcc aacctgctct aggcagcacc ttccaggctt 180
tggacagaag gttgatgaaa tcaaatacga aggagtagat acagtcgctt gtttagctgt 240
caatgaccct tttgtattac atcagtgggc agagtcacag ggagtggcag gaaaaattct 300
catgttagca gatgggtggg cgcaatctgt caagaaactt ggactggata tcgatactgg 360
tgactttggg ggtattcggt gtcgtcgatt ctcaagcttg attgacaatt atgtcgtgaa 420
aaa 423
```

<210> 1198  
 <211> 361

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-022-Q1-E1-F5  
  
 <400> 1198  
  
 aaggtatcaa agtaaagaaa gaaggaaaag gagaagaaga gagggtaggc ttagaagcag 60  
 caaaccagag aggaaagcgt taaagcatga aagaaaagaa atccgaaaaa gaagagaaaa 120  
 aggtaagaaa gaggaccgaa tcagggttaag aggtagagga gcaagaagag aagagagaat 180  
 gctgggtgga gtagcgaaac aagagaaggg aagtaaaagg taagaaagag gaaaggttta 240  
 cgagagaagg aagtagaaag aagagagtgt aaggcggcgt cataatagaa atccgaaagg 300  
 agtagaagan nagagagaga agaaggaaaa gaagagaaaa gccgtactga agaacgacac 360  
 a 361

<210> 1199  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-022-Q1-E1-F7  
  
 <400> 1199  
  
 cccacgcgtc cgcgcacccc aaaagatatt tataaagaca agtattgggt gtggacaaaa 60  
 aaccaaccgt gggaacctat cttgtacgga caatgtcgtc tacttattac gaaaaagaaa 120  
 aggaaaatat tcatcccaat atctatccca caggagatag gataataagt ggtgatgaca 180  
 ggcaggttgc caggaataga tccccaaggc agcctttaca acccatttct tacaatacta 240  
 tgcagaacaa tgtccatcga atactgattc gaagtgtacg gtaaagagag gagtgcgcca 300  
 atttggttgg ttttggaggg ataccatatt atatataac gcatatatgt ataca 355

<210> 1200  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-022-Q1-E1-F8  
  
 <400> 1200

cggacgcgtg ggcggacgcg tgggtgacga aagtaattat ttagaagcta gctttactcc 60  
 agattcaaag caagttttga gtggttccga agatggctcg atttttattt ggagcacaac 120  
 aaccgggaag catattgtaa ctttaactgg tcatgaaggc ccagtttgtg cggccaagtg 180  
 gaatcctcaa tatgccatga tggcaagtgc ctgccagaat gtcgtgtttt ggttaccaag 240  
 tgcgttgtcc acatagggaa ataatttgtc ttggtagtta aagccgggct gttttctttg 300  
 gctttgaaca tgattttgtt gcagcatgat gttaagagtt aattataggc actttgatga 360  
 gtcatttatt ctgctgttag cagcaacatg attttcgctt gtaatgacgt tttcttcgag 420  
 tagaacctga aactagg 438

<210> 1201  
 <211> 398  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> Clone ID: LIB190-022-Q1-E1-F9  
 <400> 1201

cccacgcgtc cgcattaact ggacatactt atcgagtatt gtatttagct gtctcaccgc 60  
 acaatgaatc gattgtgact ggcgcagggtg atgaaacttt gcgattttgg aagggtatttc 120  
 ctgctagtcg tcaagtcaat ggtttggaaat cgaaaagtgtt gctttcaact ggtcaaaatt 180  
 gtttgagata aaataccaca aaccacacac aaaaaaaaaa aaaatccata aaatacaaaa 240  
 caaaaaatat acaaacaaaa aacagattca aaagaaaaaa aaaaaaaaaa caaaaaacca 300  
 aataaaaaaa aaaaaggggg ggcccccaa aggtttcaag cttaagttac ctttcaatca 360  
 aatttaaaac ccttccaaag gttccccaaa attcaatt 398

<210> 1202  
 <211> 322  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> Clone ID: LIB190-022-Q1-E1-G1  
 <400> 1202

cccacgcgtc cgcccacgcg tccgcccacg cgtccggaaa actttggcag agaatagtgg 60  
 cttcgatgca caagaagttc tattgaaatt gcagtcagag catcaaaagg gacatattgt 120



tgggtgttgac gtggaaaccg gtaatcccat cgatcctctt atgttgggaa tatacgacag 180  
 ttttgctgtt aagaagcagc tgctgaacct ttcatccatg atagcatcac agcttttgtt 240  
 agtagacgaa atacttcgag ctgggagaaa tgttccgttc aaatcaggca gtaatcaata 300  
 aaagcatcca ttcctcctcc tt 322

<210> 1203  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-G10  
 <400> 1203

tgcccttctc caaccagctg tcctggtatc cgtcacaagg cagaaacca actgacaaaa 60  
 agatattcaa ggagtgtatg ttctcgtgaa agagggtcgt tatttttaac tggtcgttat 120  
 aagaaagact ttcgtccccg caccgtacga cgtccttttc gaatcagttc cctcttaaag 180  
 agagaattgg cgatatatt gcaaaagcat gcgcttcagg acaatagatt tcttagtgaa 240  
 caaacttttg gtttgatttc tgtggttcgg gtagatgta gccccgacct taaaaatgcg 300  
 aaagctttta tcagtgttac aggaacggat gccagcgaa cagcaacgta tcagtgggta 360  
 caagatgaac gcaagtccat caaatatgag ttgtctcaga gagttcgaga gataagatat 420  
 atacctgaac t 431

<210> 1204  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-G3  
 <400> 1204

gccaatattgt acaattctta taaacgtgga ttccgtacca atggagtatc ttttgtatgt 60  
 attttgtcga ttgcattatg tcgtctcttg attatgcctt tgttgggttg gtcattggata 120  
 cagttattat tgcacttttg aatattatcg gatcgaacgg acaatattca attgttggtta 180  
 atgatgatag aaacggcagt accatcggca aacaatgtgg tgattatgtg tgagatgggt 240  
 ggaacgagtg aagagcccat ttcgttggcg ttgttggtgc aatttatatt ggctcccttg 300

tttttgacgg caaatatggc gtttttcttg tggcttttga aatagtttac aattcacacg 360  
 ttggatatat tggatcatcta tgtaagtttg tgtggaaaag aataattctt tgggttatct 420  
 ttgt 424

<210> 1205  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-G4  
 <400> 1205

cggctctgta acgaccactt ttcatttccc aaaacatgtc gctaggaaac aatagccttt 60  
 ttcaatctct aaacgcggct gtagaaaagt cgaaaaagtc aaaaaccctt ccgaactatg 120  
 gggacggtgt ggagttggaa ggtacgtttc gaatgcctcc cgtatcccc agcaactccg 180  
 cctctccttt gagcgaaatg ggtggaagag tagaaccaat gaggttttct ggactagggt 240  
 cagcgttttc tgggtcttcg gatgacggag atgtggcttc acgacaaggt acaaccgtgg 300  
 actacttgga ggcaagctta tcgcagtttg aagatgcaac gaatgcagcg ggttcaaaga 360  
 gaaagtcggc tcgtaacggt gtttggtatg aagaaaacca caaaaagggc atcttttcga 420  
 agaaaga 427

<210> 1206  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-G5  
 <400> 1206

cgaaggatga agagagcaga tcgcaaggct ctctacaac tctttcaaag ttacaaggaa 60  
 cctgatggaa attatattgg tgcacaaggt ctacaaaaac tcttcgaaga cttcaagta 120  
 gaccctagcg atatcgtcac tttggtactt gcgtggaaat tgcaagcaaa gagtgcgtgc 180  
 gagtttacag aaacagagtt tgtagatggt ttggcaaata tgcaagtaga ctcgttggaa 240  
 aaattgaaga agaaactgag ttctttgaga aaggaattgg atgaccttc caagtttaga 300  
 gctttctatc aattcgattt tgattattcc agggaaacctt ctcaacgttc gttaccttc 360

gacacggcaa tggctttatg ggaagttttg ttgcgaggaa gattcccttt g 411

<210> 1207  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-G7

<400> 1207

cccacgcgtc cgcccacgcg tccgaaaagc gggaaaggaa aggagagaaa gaggaaaggg 60  
atgaaatgca gagatctcta gagaaaggca agaaagaaaa gaaaggaaga cacagtaaatt 120  
gatgcaagca aacatatgac gcaatacatt agatcatagc atatgccatt cagttaagta 180  
aaccgatgag ttgagtagtg tgggtgtaatg gaatagcata acagcacagc acagtgtaat 240  
gtatgggttag ggtagagtcc ataccagaag tgaaatcggg actctaattct gagaagaggc 300  
acattggatt tgaaatgagg tccagtcaag acaagtcagc tctgcagaaa attgggcagt 360  
gtacagggaa gtgagatcca atccagtaga gtggagtaga cataacagga a 411

<210> 1208  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-G8

<400> 1208

acgccgttca gtgatattat cggtgaccaa gaagaaaaag aagtgaagga agcagcagaa 60  
gtttccatgg gaacggaatt gagcgacgaa gatgtatcca acatccgtga gttgtgcgaa 120  
caagtgatta cattggcgga atatcgcgcc actttgtatg aatacttgaa aaatcggatg 180  
gctgcagtag ctcccaattct gactgctatg gttggagaac tggttgggtgc gagattgatt 240  
gcgcatgccg gaagcctcat gaacttggca aagtatcctg ccagtacggt gcagatattg 300  
ggagcggaga aagcactttt ccgagctttg aagacaaaaa gcgctactcc taaatatggt 360  
cttatttttc atgcttcttt ggttgggtcaa gcagcaccca aatacaaagg aaagatatca 420

<210> 1209  
<211> 382  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-H5  
 <400> 1209  
 agaaaagcgt ggtgcagatt tacattcatc gccgcacaca acagtgaaag ataaaagaaa 60  
 ttcttcacaa tcggatgctt ggtagtacct ggatagagat gttctcgtaa gaatcgtgga 120  
 atctttcaaa gaaactcgaa acgagatcga cggcatttca gggatatacga aagaaggtag 180  
 atagaaaaga tgacggatct agcatccaat agtatttgtt gtcgacgaaa tgcttggcag 240  
 tggacatggc ctacttgtag caagtctcac gctagagctt caaatattga gagaaaatgt 300  
 gtgaatgcat ctctttttta atcgaagtgg tgtacaaccg atcttgacat ttgatcgcta 360  
 ctagctcaat tgaaacctat ct 382

<210> 1210  
 <211> 272  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-A10  
 <400> 1210  
 gggattgttt gtggcgaact ccttacagtg gtgtatctcg ctttcctagt tttgtccgta 60  
 acaggaaaca atcaagaaac cgctgttttc aacgcgagaa atagttttag tctcccacca 120  
 acgattggcc actttgggtt acgtgccaag tcgacgaaaa agagttgggc ctaactccaa 180  
 aactgggaag actagtaa atttttgcag cagctccaga acccaaactt acgaatcaac 240  
 aattgcttta cttggcaaaa acgttagaac cc 272

<210> 1211  
 <211> 447  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-A11  
 <400> 1211  
 taccggtcaa ggggttcagc acccgtcaga acttgaatga ttgctgtctt cagctggcgc 60  
 cctaaatact ccgttatttc cgcatattg ttgttgggaa gaaagacttt gagaattgct 120

tcagacgcat ccaattgtat gtttccataa acaatgtcag aaaacaaact tatctacaag 180  
 aaaaataaga aaacacactt tgccaaggga ctaaagtacc attaactcca acaaagctgg 240  
 tctccagctt tgagaaagac tttgaggggc ttgtagacca caaagtgcc tctttaatga 300  
 tttccagact tggtagaata gctcattatt ttgatcaaag cattctgact cgtgtattgc 360  
 atttggttgt ttgtatattg cgattatatt gtgaagtaag taaagaagga acgaaatcct 420  
 gtgattggaa gaaacaggaa gttcttg 447

<210> 1212  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-A3  
 <400> 1212

cgcgtgcagg tggcgggcaa ggatccaggg gtcgaggac gcgtcacgcc cacgcgtcag 60  
 cccacgcgtc cgccacgcg tccgcggacg cgtgggaatt ttgaaaggat ttcctgtcga 120  
 gttggagttg aatttagatg aaagagatac ggaaagtgat tctatagaga gaatagagca 180  
 tttgttgagt tgttcgaaga aaattgggtt gaaagttgct tccatcaaca tttgtcaact 240  
 ggaatcgga cttgttgttg agaattttgt cagactttgg gatgttttga aaagtattgc 300  
 agaggcgtct gtggtagtat ctgtcaatat gcgtcagtta caggaatcct gaaatgaggc 360  
 caatttggtc gagatggatt cttcctcaac agaaaaactt gttgca 406

<210> 1213  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-023-Q1-E1-A4  
 <400> 1213

gggccgatcg agtgttccat tttctccatc atgttgcttg aaaaaccgtt cgttccaaag 60  
 ctgcgcgttt gataagaact gtgttttctc atgtctcgct ttctccaga gttgttcttc 120  
 tcaccacaca agacctttgg tccacttggt tataagatat tctcgtctcc tcacaagtat 180  
 gcacaaggca aaggaatcat acagtatctg ggactattct tgaaacctct acaggagac 240

attgcggtag tggatatgttc cccttcgaaa agagaacact atacgtagtt tgatagaaca 300  
 ttctcgtatt aaagatggat ctgcanagca agttgtatct ctggactttg gtggagaatg 360  
 ttcgtgggaa gaacttgcaa atgtgaata 389

<210> 1214  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-A6  
 <400> 1214

gtgggccttc gacaggaag aggactaagt ggggaagcgt tgaagcgttt gaaagttttg 60  
 cagtcggaaa gcttgtaaaa caagttatcg gtgactaatc ttcaagggtta ctttggaaacg 120  
 aacaagaacc ctcttaagag caactccaca ctttagctgc aagctactgt taggctcctt 180  
 gttgtttcca aacagaaagg aaagggtaaa agagggtgct atttggaaga gtatttgaaa 240  
 cgtcacagta tttactgagt ttgcaacgag tattatggac atgacaaagg agccctccca 300  
 agtgataaga taagtttggg cggaaaacct ggaggaggaa ctagcaaata tttcctccaa 360  
 attggataag tataactttg ttgcaatgga taccgagttt cc 402

<210> 1215  
 <211> 273  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-A7  
 <400> 1215

cccacgcgtc cggaagaata tgacgagttg gttaatgcag atatgtggaa tgatgccgta 60  
 agaattgcca gtatccaaca aagacaagta cgaaccagcg ttttgcatc caaaagtaat 120  
 ggcgttttat ccttttcagg aaaaacatcc accacaactt ttogatatcc catggacgtt 180  
 gttatttttg agaatagtat ttttggtatt gcagcaggtc caaatgagat ttggagtttg 240  
 aatcctgcag gagaagtcaa gttgatatgt cat 273

<210> 1216  
 <211> 405

<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-023-Q1-E1-A8

<400> 1216

```
cccacgcgtc cgcccacgcg tccgggagga atgttaggag gaggagaagg atatgagaat 60
agaggaagag gagagatgat gggagtaata agggaaggag gagtacactc gataataggg 120
atgggaatga tgatgttatt aggaagagaa aggagtaagg aagtaaagga gatgataaat 180
gtgagtgtaa gtgagagtgg agtatggagt ggagagaaga tgaagaggag tgtaatgaag 240
gaggagatta aggagagatg aaataggtgt atgatgcagg caaagaagtg acgcattata 300
ttcagagagt acacatgcaa gtaggtanag cgaacgggtg agtaaagagg tgtgaaacag 360
tggaagaaca tgaaagcaca gaagaatgta agaaatgggt agagt 405
```

<210> 1217  
<211> 436  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-A9

<400> 1217

```
atccccggtc caaccaagcc tccgggaaaa aaccggccca tgggaatggt tgggtgggaaa 60
cccctaaaat tggggaaccc cccttcccaa gtttggcccg taccaggaac caaccagaaa 120
accccggttt ccaccgcaag aaaaggttta atccccccac caacaactgg caactttggg 180
ttaggtgcca attcaacgaa caaaatttgg gcctaactcc aaaactggga aaactagtaa 240
atagttttgc agcagctcca gaccctaaac ttaggattca acagttgctt tacttggcac 300
agactttaga gccctgcct ttccagtaca agacaaacga gaataagggt cccggttgtc 360
tctctactgt tcacgttatt ggcgtctgtg aagacgataa aatttttttc aaggagatt 420
ctgacgcaca gttaac 436
```

<210> 1218  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-B1

<400> 1218

cggacgcgtg ggaactattg agaagtacaa agtttccta tttgctggag ttccaactat 60  
gtacattgcc atgttacgtt gtccagagtc agataaatac agtttgaaga gcttgaaact 120  
agcgataagt ggaggagctg ccattcctgt tgaaatatta aaagaatttg agcagaggca 180  
tggaattgct atcatggaag gttatggatt gtcagaaact tctccaactt gttgttccaa 240  
ctctgccaaag ggaggaagga agccaggatc cattggacgt cctgtttggg gtgtagaaat 300  
ggcgatattg gatgaaaatg ataagccagt tctgacggg cagccagggt aagtatg 357

<210> 1219

<211> 200

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-B10

<400> 1219

cccacgcgtc cgcccacgcg tccgcggacg cgtgggtgga gataggattc cgattagtat 60  
ttcctatctc ttcattcgca tggcaagaac aatccgttgc tcatcttata attccaagtt 120  
ggcagtccac tcgtccaact ttggattcgc tgggagcaaa tagaaaattt cataatacac 180  
tttattgttg ttgtattctc 200

<210> 1220

<211> 299

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-B11

<400> 1220

tgcattgctga cgtcatcgtt ttagcagtaa agcctgatgt agtctctgaa gctcttaagt 60  
ccataaagga cggatggaaa ccggaaaaac accttctagt ttccatttgc gcaggagtgt 120  
cgattgggac aatagaacag cagctggtaa gcaaatctag agtcattcga gttatgccaa 180  
aactccgtg tctggttgga gaagcagcag tcgctttctc ttgtggttct tgtgcaacaa 240  
cggacgatca aaaagtagtg gaaaagattt tctcttctgt tggactggca agttgtgtt 299



<210> 1221  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-023-Q1-E1-B2  
  
 <400> 1221  
  
 agaaagagga aagggatgaa atgcagatat ctctagagaa aggcaagaaa gaaaagaaag 60  
 gaagacacag taaatgagggc gagaaagcat aggaagtgaa acggattagg aaccctgtga 120  
 gtctatgcag taaaagaaag aatgagtaag aaaaaaggga gtcattccac caggggagta 180  
 aaggcgcaag aaagaaaccc aaagcaattg acgggaatcg gaaaaagggg tggatcacgt 240  
 aaattaatcc gatataaacc gagaacctta cctctccaag aaggtgttgc acggctgtcg 300  
 aaagaacgtg ctgtgaagtg agagaacgta cgagaaagcc aagtgaggaa aagaaggcaa 360  
 gtagagggcg gcccagagaa ggagaaggcg taagacgtga tacag 405

<210> 1222  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-023-Q1-E1-B3  
  
 <400> 1222  
  
 cggacgcgtg ggcggattcc aaaaccccgga gaggtgggat tgttggtgtc tccacgagac 60  
 cgtttgcgtc tgtcttcaaa gtatacaatt tctttggttg ttatagttga tttatataaa 120  
 cttggaatgg gaacaaagaa acaacatatt gtgagcgttt gtaggtacga gagaaaaaag 180  
 ggtgtcttca actgtttatt ttcgatgacc acgctgcaac cgtaagtatg tagtgtaaac 240  
 gcggtagttt tgtagttttt tgtgttctgt gaagcctgtc gcattacaaa aagtgcagag 300  
 atacgtggat ctgtaatcat attagcattg ttcaaggaaa cttcactgtt actctgaaca 360  
 agtggttata gttttcgact tgccaggga aagtcaacag cctgacact 409

<210> 1223  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-023-Q1-E1-B5

<400> 1223

cggaccgtaa ctcggaacta ggtaaagaag agaggaagca agctactttg aatagttttc 60  
cgtttacaca gagagtaatt gctgctctcg tggacactgg agacggtgac tcgatggctt 120  
cattgacgac aaagataaag ggaagttctc aagaagaacc tttgtggaaa ggattcagtg 180  
atagagatac acaaagatat tatcaggaag tgtttgaaga gagaataaaa gaacagctga 240  
aaaaactagg tctccttcaa cctgaggatg acgactatgt gcagtcgagg attcgagacc 300  
ttcaatggcg tttacgtacg gcanaacatg atgctagaat ccgaagaaca aacctgttga 360  
ctagagtgc gactacggaa tcaaagcggc aagcgactgc angagagatt aaagctcaca 420  
atgatgatct ggaaa 435

<210> 1224  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-B7

<400> 1224

ctgagatctt ttatgagccg atttgttgcc attcgttggt ctggataga ttgacaggaa 60  
taatagatat atacgtatat atatatatat atagagagag agagagagag agaaacacca 120  
aacagtatag atagataggt acattgatag atatacatgg actcgagtca agcgtttgtg 180  
tccactagtg ctctcaatct tatgtacaac aggtttgtga gttgcaaacc caacaacttg 240  
tgttatcgag aaaggctacc gacgaacatt tacaagtcatt ttcaggccaa gagaagtga 300  
caagatgaaa atagtttacc ttggaggcta ggggagctac tatccccaag aaagcaattt 360  
gacaggattc agccaaaaag tagggtgcct tctgatgacg caatttgtat atgtggcac 419

<210> 1225  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-023-Q1-E1-B8

<400> 1225

ggcaagttga gctttgtttt ggcaactgttt ttttttgggg ttccactcgt gtgttttgtc 60

tttttaaaac tcgaagaaga ctatttatatt cttggtatgt tttaaagtct tttctagact 120

ctgttttttg gagttgttgt actccagtct tgggtggttg tgaatggctc tagtgacaaa 180

gagggttgtc actttgccgc cattctccac agcttcaact accaacttgt atacgtagac 240

aactacataa ctatattact acagagtcgt ggtgtaaaac gaaaagttga gtggttgaaa 300

aggatggtga aaagcaaagg actantgaga gagagcactt tgaaaccttg taaatttgta 360

cccccaaaa acaatttc 378

<210> 1226

<211> 333

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-B9

<400> 1226

cgctgcagg taccggtcta gagttcaagg accgcttcgg ccaacgattc ggcctttcct 60

ttgtcaattc aaggaaggat accaaaatta tgaaacaaga acctgaatat aattttggat 120

tgttattgga tgctgccaaag gcattaggga tgatgggtgt atagccaagg atgtacagaa 180

aggtgtgtgt aaatagacaa gaggcattatt tatgaaaagt ttattgtttt tttcgtgcaa 240

atatgatttg tatcgtttat atcttgaata tgtgttgat ttgtttggca ttttgcttgg 300

aaaagtaaaa attgtggagt ttttggaata ttt 333

<210> 1227

<211> 434

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-023-Q1-E1-C1

<400> 1227

cttttgtatc tcacgttttg ggctgtaaat gttgctaag gaacagggtg agcaacctaa 60

cattatatat gttgaaaact aaatgaacga aaagaagctg gtgtgagcat ggaagtgcc 120

actattagt ctgccaaaca tgactctgaa gatagccacg aagaagtga gaagcggttg 180

agtagagtaa gcgctccacc gtttcccgat cctacttctc taggattatc tggtttttagt 240  
 tgcacaactt tcattcttag cgtaatgaat gccaaattat tgccagcgag gattgtacca 300  
 ggaattgtag ggcctgcctt tttctatggt ggaacggtag aaatgttggc gggcctttta 360  
 tgtnttgta ctcgtaacat gtttggattg gtggcattta cttcatttgg agcttttttg 420  
 cttgcggttg ctac 434

<210> 1228  
 <211> 284  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-C11  
 <400> 1228

agcattcgtg gtttagtcca tttccgctgt ggctgaaaga cttgtgatat tcctgtacta 60  
 gttatggaga aaggaactcg actggtatac aactctgcaa ggagcttgct tgctagatat 120  
 acacgcttga atgctgcttc catcaaatac ttccatacac catctatggc agtttcgacc 180  
 taccgtagtg tctttcaggc aaagcctttg gttggattaa aatatgcaag ttatctgttg 240  
 aagagaagtt tcgcaacagg aaaagatctt cgatttgcta ctga 284

<210> 1229  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-023-Q1-E1-C12  
 <400> 1229

gtgaagtact ttattgttac ccaggttcaa tatgcccaaa gctgcgagta aagaagagaa 60  
 gcccgctca aaacgcgctg tatncccta caacgaatat atgaagaaga tgcttcccgt 120  
 cataaagcaa caaaaccca atctttcgca tcaggaagct ttaagcgtt gtgctgaaag 180  
 ttggaaagac gctccagaga atccaaagaa ccaggcttca gcctaagtta ggggttttct 240  
 ttgaattggt gtttctcaac accaccagga gaaggaacta gtctatttta tatttcgctt 300  
 tgtgtcttca agcacggaat atgaggaaag gtaaactttt gtcttatttg gtccgtatga 360

gtagttgcgt gtntgtaaaa taaaatcact tttcaaca

398

<210> 1230  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-C5  
  
<400> 1230

cccacgcgtc cgtgagaagt tgacctctgc tttgccacct ctttttggta tcgcttatgt 60  
gttttgcctt ttcaaagctt gaagactatt tattctgcaa tgtttttagag gcttcttcag 120  
aggttttttg tactagtctt attccgtggt tcgtagtggg tgaaaggctc ctttcacaac 180  
agcgttggtc tgaacccgcc aatctccaca tcctcaactg ctaacttggt cgcgtacgta 240  
gaagtatatt tgtacagatt cgtggtgtag aaagaagagt gcaatgggtg aaaagtaacg 300  
gcagagtacc aatgtacctg tagaggaaac acttgaaaaa gggtcacgtt cttgtacata 360  
tctacctata atagctgttt ttgctcgtag agattgcaag tttagtgtac ttgacaagggt 420  
ttcc 424

<210> 1231  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-C6  
  
<400> 1231

cggacgcgtg gggagaactt ttggatgatg ttgagatcat cacgccacgc gagccgagtc 60  
aacgcggttg tcaactttct ttgcgtttga agaggcataa attgagggag attcacgagg 120  
ctttgactgg tagaggagta gtatgtgaca cgcgtgaacc agacgttttg cgtgtcgcac 180  
cctttccatt gtataatact tacatagaag tgttggagtt tgtccaaata ctttctacta 240  
ttttgcattc ggccgaaata actgtacaag aacaatagat tttgttttct tattcattat 300  
gaattttatg cttagaaaca atatgataaa tatatttcgt ggttgttttc gtcaaaaagt 360  
aatagcttgt ttgcaa 376

<210> 1232

<211> 319  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-023-Q1-E1-C8  
  
 <400> 1232  
  
 gcgaggtgta tgaggctggc ccggatttga tgcagtctgt caccgcattg tagattgcat 60  
 atgggtgtcac gatgggttga ttaaagaagt atttgagttt ggtagaacct gcaatcacac 120  
 attaattgtca catatgttta tagtaccgac cacttacgga agtatcatcg ggaatctgac 180  
 atgatgatag ccacattgca cctgagttag ggtccatcca aggtaactca gcaatgtgga 240  
 accatgtgca aagtacaagg aactacgacc cagtcattgat gattcgactt tgcaagataa 300  
 gccttatgta gaggggaatg 319

<210> 1233  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-023-Q1-E1-D1  
  
 <400> 1233  
  
 cggacgcgtg ggccgcagcga ttccatgttg aaagagggtg cacgtatatt gtccgatctc 60  
 aagtttcagg tgcttcaaga tggaaaaccc caggtgataa cttcggatca agtattcgga 120  
 ggaaagaaag tagtattgtt tgggttacct ggtgccttta ctccaacctg ctctaggcag 180  
 caccttccag gctttggaca gaaggttgat gaaatcaaatt cgaaaggagt agatacagtc 240  
 gcttggttag ctgtcaatga cccttttgta ttacatcagt gggcagagtc acaggaggatg 300  
 gcaggaaaaa ttctcatggt agcagatggt ggtgcgcaat ctgtcaagaa acttggactg 360  
 gatatcgata ctggtgactt tgggtgtatt cggtgtcgtc gattctcaag cttgattgac 420  
 aattatgtcg tgaaaa 436

<210> 1234  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-023-Q1-E1-D11

<400> 1234

gtgaaagggtt cttattagag tctgcattgt cttattattc attccgagat ttgacgagtt 60  
ggacatcttc ggacatgatg tatgtaggag atgtatggac gaacaatcgc tcttcgcaac 120  
ctttcataga gtcganaccc aagacgagta gtaatacgtc gaaacgtagt cgtacagttg 180  
tcgataagaa gaccgaagct acgaatgctc ctttatccag ttctggtagt cttttggaga 240  
gtttacaaac tttgatgaat atgtttcctt gtacaagtga tgttgctatt cctgatgtga 300  
attatgtgtt gaaccttatt ttaagtacac cagagagcct gaatgtccaa gaccaaaagt 360  
ctcgaaggga gaagaganag aatatgagta gt 392

<210> 1235

<211> 419

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-D12

<400> 1235

cccacgcgtc cggaaaggaa gacacagtaa atgaggcgag aaagcatagg aagtgaaacg 60  
gattaggaac ccgtgtagtc tatgcagtaa aagaaagaat gagtaagaaa aaagggagtc 120  
attccaccag gggagtaaag gcgcaagaaa gaaacccaaa gcaattgacg ggaatcggtg 180  
agagatgaaa gaccactgca tgaggataag gaatctaact gagtaaggaa aataagctta 240  
agctagtttg gctggggaag taaagcctaa gaaagagtaa attaggcaag caaaggcatg 300  
agagaagtat aatagcagaa gcatgcttga agaaaaagaa agagatttca gaaaggggaag 360  
aaaagtcagc tatagagaac aggtgaagga gaactcaaaa agaggagagc accgaacga 419

<210> 1236

<211> 439

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-D2

<400> 1236

aggaactctg caagagtatt aatcctgatg aggcagttgc ctatggtgcg gcagttcagg 60  
ctgctatttt gactggtgat gccagtgaga agacgaagga tcttttgtta ttggatgtga 120

cacccttgag tttgggtatc gaaactgcag gaggtgtaat gacaaaactt atcgagagaa 180  
acacgactat tcctacgagg aaatcacaga tattcactac gtatgccgat aatcagcctg 240  
ctgtgactat tcaagtatat gaaggtgaac gtgcgatgac gaaagacaat aacttggttg 300  
gtcgttttga cttgacagga attcctccta tgcctcgagg agtacctcag attgaggtta 360  
cgtttgatat tgatgccaat ggtattttga atgtgagtgc agtggagaag agtacaataa 420  
gagtaataag ataactatt 439

<210> 1237  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-D3

<400> 1237  
cggacgcgtg ggcgatggca ggaccttggc tcaagtatcg aggtcacctg gataatattt 60  
ccaacaacat gttcatcggt gctatcaatg cggaaaatgg caaggccaat tatgtgaaga 120  
atcaattgac tggatcaatat ggtccggttc ctgatactgc tcgtgcatac aaagctgctg 180  
gattgccatg gattgttatt ggagatgaaa attatggaga aggttctagt cgagaacatg 240  
cagcactgga acctcgatcat ttgggagggtg ttgctatttt gggttcgttct tttgcaagaa 300  
tccatgagac caacctcaag aagcagggcc ttcttctctt gacatttgcg gatccggcgg 360  
attatgatcg tattagccca gatgaccgca tttctatttt gggattgaag gacttgaaac 420  
ctgga 425

<210> 1238  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-D4

<400> 1238  
cccacgcgtc cgcggacgcg tggggagaca attctcccaa tgcggatgct gcagacgcta 60  
ctccaagaag ccgtttatta ttgcatcaag taaaagttgc tctacagcat cgaataatgc 120  
agttagaaga gcaactaaag cagttgaggg ataaacagag cacagaaagt gatacgaaaa 180



ccatctctat cgtcaaggaa ttgcaggttc atttggaaaca agcagaacag agaatccatc 240  
 agttggaaga agaaaaggaa cagatcgcaa ttgcacatga tcgacttttg gaagataatg 300  
 cggcggttaga aactgaaaac gaacgtttac agttacagtt gagacgggct gtagaagctg 360  
 cttcatatta tagtggtaga gacactgtgt cccct 395

<210> 1239  
 <211> 319  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-D5

<400> 1239

accacgcgtc cggaaggaa gacacagtaa atgaggcgag aaagcatagg aagtgaacg 60  
 gattaggaac ccgtgtagtc tatgcagtaa aagaaagaat gagtaagaaa aaagggagtc 120  
 attccaccag gggagtaaag gcgcaagaga taaaccaca gcaattgacg ggaatcggta 180  
 agagaggaat gaccactgca tgaggataag gaatctagcg gagtaaggaa aataagctta 240  
 agctagtttg gctggggaag taaagcctac gaagagagta catgaggcaa gcgaggcat 300  
 gagaaaaata cactagcag 319

<210> 1240  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-D6

<400> 1240

ctcaaattgt ccacaaagcc ttgcatcaca tttgggattg gaattggaag acttttgtat 60  
 tggtagaaga aaagctgttt tttccttggc tccgaagctt gcaagtcaaa tctgcgtatg 120  
 aagggatcct ctgagagctg gaaaaggaa gccagcgtgt agtggatgtt tcctccaata 180  
 agcaacaaca aagtcactcg tcgcctcaac attctttctt ttctcgttgg caagacaagt 240  
 ttgccaatat tgttttccaa ccttggtttc tgtggaagga tagatcgaag caaagggaat 300  
 cagcctcgac agcgtcgggt gctacgtgta aaacatggaa agctgataca gaacaacaat 360  
 atcaggagct attcaagaca tatcgactcg tcaccttatt gcatgacctg tgtgaccaat 420

atttcgatca tgaaag

436

<210> 1241  
<211> 344  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-D7  
  
<400> 1241

gtggaaccga tgccttccca gcaaatacaa tactctgaaa aatattatga cgatacctat 60  
gaatacagac atgtcatctt acctccggac atagcaaaac tgctccctaa aaacagacta 120  
ttgtccgaag cagaatggcg cggctctcga gttcaacagt caaggggttg ggtacactat 180  
tcaatccatc gtccagagcc aaatatattg ttattcagaa gaccgaaaca aacagaggca 240  
caacagactc aaaatagtat ggttggcaaa caacaacaaa accaagagca gagaccagtt 300  
gacgtcgtcc cctaatacatt acgagtaaag ttttattgaa cttg 344

<210> 1242  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-D8  
  
<400> 1242

acaagcttgt aagcgtcacc acaaaatacc tatgggcaag attgatacaa cccgaatgtg 60  
gcaagttggc aagcaagtca gaaaaacaag agaggaatcc agtattccca tcgttccttt 120  
ttctgcaggt gtatacattg cagctatgat ggctcagatt gacattttga tggaaaaggg 180  
acatccggtt tcggaaattg tcaacgaatc cgtcatagaa tctgtagact ctctcaatcc 240  
atatatgcat gccagagggtg tttcttatat ggtggataat tggttctacta ctgcaagact 300  
tggtgcgaga aagtgggcac ctcgctttga ctataacatt tctcagcaag catttcctgt 360  
tcttgacaat caagaaccgt ttgacatgcg caagttggat gaattcctaa gtcaccc 418

<210> 1243  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-E1

<400> 1243

cccacgcgtc cgcttcctaaa gcgatgaaca tgtggggaga tcgtgctgcc aaagtgtga 60  
gagaagctca gtatccagat acttggcctt atacggaaga agacttttct agacttgacg 120  
aaagcaacga tcaattattt tattctcaac ctagattggg ttatcatatt gatgagtttg 180  
ctataagagc actcacgaaa ttttacaaaa acaactttgt tcctgggtgct gatattttag 240  
acttgctcaa gttgggtttc acatttccct gaggattaca aggcaggttt tgtggctgga 300  
ataggattga acgagttgga attgtcaaag aattccagac ttgatgaata tcatgtgatt 360  
gatttgcagg agaatccaac atttccctat ccaaatagata gattcgatat tgtgacta 418

<210> 1244

<211> 66

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-E10

<400> 1244

ctcatggagg agttgggtac ggagggagtc cgaacgggat gggatatggga cgtatctgga 60  
gtcctg 66

<210> 1245

<211> 372

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-E11

<400> 1245

cccacgcgtc cgcccacgcg tccggcgtgc tgagcagtag aagcctattg tagttgaata 60  
tttgggttgc atctttacta tgtagagacc tcttcatatt actctaaaca tcgatatatt 120  
gtatggccttg ttttgactga gaaagacttg tttattcaca aactattgaa aaatggagct 180  
gttgccttgg agttgctcgg aaaagggttg agctctccaa aagttacaca acctgcgcgt 240  
tgtctttgga ggtggaagct tctgaaatac ttttgcagac ggtttttggc agcacgttgg 300  
ttggactttg gtggagtccg gtatgctatc ccttgctctt aacttacaca cttgggtcac 360

aaggcactat tt

372

<210> 1246  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-E12  
  
<400> 1246

cccacgcgtc cggttccctt gtgctgctgc ggttcccca tggaatgaca acctctgctg 60  
gcttgttggt ccttacgtca ctgtcactcg agaacacaac aactaaaagg aattcctttt 120  
aaaataacaa aacaagatgc tatagagaga tttttgcatt ggtccaatag caaccctttg 180  
ggaataagat tggaaccttg ttcgctacag ttgaaaactt tgcacgtacc cttgtttctg 240  
tttgaagcag atgttcattc agagtttgaa tatgaaaaaa catcgatggg gcgactattt 300  
tatcagtctt tagtgagccc tcgaaagact tgtcattttg ggcgaatta tattcgaggg 360  
acagacaact ttcgatacac ttgtggaaat gtacatatgc agctgtatgc tgggtcccaa 420  
cgct 424

<210> 1247  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-E2  
  
<400> 1247

aagttttgta ccgtcacttg caaaaagtaa tcagtagaca tcaacttagca gccactgtcc 60  
ataaacgacc atcgtcatag gtttgtacct cctgggtgacg acatttttacc ccacgaaagt 120  
gtcgtccgaa gtcacgggac tatggttcaa ggctcaagac ttattttccac tgtaacatga 180  
ttggtagagc gagtgaacaa actcgtggct gttttgccga tacgagctcg ttactcggct 240  
gaagttgggg acgtagtcgt tggccgaatt cgagatgttg tagcaagaaa atggaaagtg 300  
gatgtgaacg ccagacatga cgcagttctt catctttcgg cagtcaattt acccggtgga 360  
gttcatacaa ggcgatctta cgaatatgaa ccaaaaatgc gtgaactttt 410

<210> 1248  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-023-Q1-E1-E3  
  
 <400> 1248  
  
 aacccttaaa aatgtcatcc caggaacggc ttgtccctcg tggcgccttt gtgctctctg 60  
 atgggaaaat aactataaga ataccaaatt taaagagacc tatttataga agaaactgcg 120  
 tgcaccacaa acaaattact tgctcaaaca caaatgactc gttttcctgg gaagggttga 180  
 aactaggccg tttatttcga cagtttttaa agaaaacagg acatttcctt cttcacgaac 240  
 gaaattccta cgttttcccc caacctgaca gtgttctaaa gttacctccc gcaaaaagta 300  
 ctctgaaca ggaattccaa aagttctcag aggaagcacg cttcaagtac agcctagaaa 360  
 taaagtcctc gccaacagca aagccacagg agcaacttgt aagtatatct agccaaaacg 420  
 ccactcta 428

<210> 1249  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-023-Q1-E1-E4  
  
 <400> 1249  
  
 attgaaagga gggcgcacga gctcagcttg aagaacaaag aacttgcggtg ggggttgacg 60  
 ttatttatga acttggaactc tattgacaca ggaattaatg ctctttttga cccgtttgca 120  
 gacgcctcac gtggagagga cgcagcagta accaaaaata tagtgcatat tcgcgtgcaa 180  
 caaagaaacg gccgcaagtg cttgacgacg attcaagggc ttgacacaaa attggatttg 240  
 aataaaatta caaaggcctt caaaaaggag ttttggttga acggttgtgt cgtagacgac 300  
 gcagaactgg gaagagtcac ccaactgcaa ggagaccaga cggataaagt caaaaagttt 360  
 ctagttcaag agaaattagc tgaaaaagac ctgataaagg tgcacggtat atgagtgt 418

<210> 1250  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-E7

<400> 1250

acgatacggc actaggcaaa tggatatggt atctgcggta gaacatatga aggaagcagc 60  
agcgactgtt tagcaaaaac acagcactct gcataagagt caaactgtga agtatatact 120  
gtgcggcctg acaattatta aagaacaaat cgatgaaagt gaaaggccag tcaaagctag 180  
tgataactgg tactcctcga aagctgtata agtagcgat gcaggaaaga agaccgtatc 240  
ggaatagaag gaagaagcag agacggacta tgatcgagaa ggtggatatt cgacagggac 300  
ttagcccaat gtccaagaga aggtatcaga gtccagaacc aatgaaaacg agaacaccat 360  
agggtacgct tagaatc 377

<210> 1251

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-E9

<400> 1251

tgaaaattta atccaccgtg gctcattctt gttgcagata tgacagggtcg tggtaaaggt 60  
ggtaaaggtt taggaaaagg aggtgcaaag cgtcacgcga aagtcttgcg agacaatatc 120  
caaggaataa ccaaaccagc tatccgtcgt ttggcgagaa gaggtggagt gaaacgaatc 180  
tcaggactta tctatgaaga aacacgaaat gtccttcgtg ttttcttggg aagtgttatt 240  
cgtgatgcag ttacttatac ggagcatgct cgtcgcaaga cggtaaactgc tatggatgtc 300  
gtatatgctc tgaaaagtta aagccgcacc ctttacggat ttggacgata caacctgctt 360  
gaacaaaggg tgtttctcaa cacc 384

<210> 1252

<211> 312

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F1

<400> 1252

cccacgcgtc cgtgtcttta gatgcaagaa gcattagctc gtcagaaccc acatccaccc 60

gattaaggca ttcaactacg tgagttaaata caaaagaacg atttctctgc caaatattaa 120  
ccagcagata catcccatct ttttcttacc tcattactgt aaggatggaa catatactca 180  
aaaaacaatc gaagtatata cttctcttct gtttcagacc attgtggatt cgttgagcca 240  
tcttcccaat cgagaacgaa accaaagagg ctgataattc ggaataaacg actcgcattt 300  
aatcttctat tg 312

<210> 1253  
<211> 244  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F10

<400> 1253  
cggacgcgtg ggcggacgcg tgggcggacg cgtgggtgcg actcacaggc ctgggtggaa 60  
tttaaagatc tttccattgc atgccagata aagtaaattt ttaaaaaaaaa aaaaaaaaaa 120  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaatgg cgaaaaaaca 180  
aaagaaaaaa aagcatcaat aaaaaaggaa aaaaagtcac aaatcaccta aagtgtaaac 240  
aaaa 244

<210> 1254  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F11

<400> 1254  
caaaaggagt ccaaactctt cgaactgcta tgcgttttac ataaaccggc aatgcgacgg 60  
aaaccttgaa attcaagttg cttccttttt acccgtttag cttgataagg ggtttgcggt 120  
gccaaagtgg agtatctgcg catacgtcta tgcgaaagag aaagactagg gcaaaagaac 180  
gaatgtaatt cgataaagag taaacatgca tagcactggt attagagcaa ccgctgggtg 240  
gtttttttaca tagtcaactg aacatgcctt ggtatcttgc gagttgagct accggtgaac 300  
aaagttacca agccattttg gaatcgttta ggcttttatgt cgagtggtaa ttcaagtaca 360  
ttttaaaaga atgctgct 378

<210> 1255  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-023-Q1-E1-F2

<400> 1255

caactggaag ccaacgtttc tactccaagc aatcgcgtct ctgaattaga aaggacatct 60  
 aatgtagatg tcaactggtgg gtcttcttct cgattggata gcagttttga tggcgcagtg 120  
 gagtcggcaa acaaaaagga cttcgagaac gacgaagagg ttgtgggtta cgtggaagat 180  
 gatgagtggg ctagtcctat gcgtttttat gcatatcatc cagaggagac agacgaagaa 240  
 cctcaagagt cgaaggcatc tccagaacga gaaaatgctt ccaaactgac accgattgtg 300  
 cagcaagcgt cttccactgc nacaaataac tttcaacata ccgcaacttt aaagttgtaa 360  
 gatgcaaaag tgtggtacag ttgttactta gtcagttaac tg 402

<210> 1256  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F3

<400> 1256

cccacgcgtc cggagggtgag ggatcactcg ggaaccccaa gtgccgtacg tttttgctat 60  
 ttctcttgta taggaaagaa agtatctgag aagaattaag gtagaattga aaatttttca 120  
 agtatttcgc gagtaataat atctgctgga atacttttca actactagag gttctttttg 180  
 cttgacgctg tttgaaaaca acggaatgat tcttgtcctg accagtcgat actgtcaagt 240  
 gatgactcga agaggatatcc aataacttgt attttccatc gtttaacaag aggcttggtg 300  
 aaaaaaagca gcggataact ttgtgcggtg tgcgtcggct taagttgctc acttttctgc 360  
 tgaccaagag gcttcaaaac ttgcagtcaa gatagcaata tattctcact gagga 415

<210> 1257  
 <211> 349  
 <212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F4

<400> 1257

aataacttga atattgaaga agagccgaat gagaacccaa tgaatacttt ggcagcaatt 60  
tcagagtcgc gactctcctt tcaaatgaag cagtcctccg tgggcacaag ttatcctcca 120  
cagaacactg cacaagagtc cagtagtgga ggtgtaaaaa gtagcattca caatgaagag 180  
tcagttagga agtctggaag taaacgatgg ttgttcggaa caaaccaatc catatgtgca 240  
ttatcagaga aaggtggcaa gaaacctcgt cctcggggat atgtagtgaa cgataatgat 300  
atgcctttga tggaaaactc aatcgacgca ttccaaagct gcagctaaa 349

<210> 1258

<211> 445

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F5

<400> 1258

atgtctcgtc ccaagtgttt ctttgatatt gctatcgggtg gacaacctgc aggaaggatt 60  
gtattcgagt tgttctccga tgtcgttcct aaaaccgcgg aaaatttccg tgccctgtgt 120  
accggtgaga aagggtttgg gtacaaagac tccaagtttc ataggatcat tccccagttc 180  
atgtgccaaag gtggagactt tacacgcggc tatggaaccg gtggcaagag tattttacggc 240  
accaagtttg aggatgaaaa cttcaagttg aagcattcgg agcccttttt attgtccatg 300  
gccaatgcgg gaccgaatac caacggaagt cagtttttca ttacggtagt gaagacacct 360  
tggttgatg ggaagcatgt ggtgtttggg aaggtttag aaggtacgga tatcgtgaaa 420  
gctatggaag ctgtgggaac acaaa 445

<210> 1259

<211> 270

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-F6

<400> 1259

gtaagccaag tcatttggct gacaagagac taagacggac ttgtctttgc gtttcgtgtc 60  
acagcccttc aagtgactct gagcaacagt tggcctgttt tcgttggttg cgtgatatgc 120  
agaatattgt aacgctgctt cttattagtg gtttgattcc aagtccgctc gttaatgtaa 180  
gcggtgcagc agcaagttct ttttcaacta tgtacaatgt ggaaaaatat gaaagccatc 240  
cttctgtttt ggttggtttg ttttgaacaa 270

<210> 1260  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-023-Q1-E1-F7  
<400> 1260

gtgaggcatg ggatttgcag agttcgaacg ctcttatgag aagtatacag gaggtgatcc 60  
atcgagaatg aaagtgtccg tggagaaact agacgaagag ccacacgacg atcatagagg 120  
ttccacttca taaaagagac tattgtgcac atttgtatat tcctttgcgc cgttgtttga 180  
gagacaacta ttttttgcgc tggctcttgag aggaagagaa ggaggcgtat aaccggtgcc 240  
aaagaaaaga gagaagaaga agagaacgac tctataagaa aatcaaggaa gaggcctcca 300  
aagtatcggc gacggaagaa caagatgaat aatatcgtgt tgggtgcgtcg tctttgtgtt 360  
ggaacaataa taactcctca aatagtaaac aacttgattt gattttcaag t 411

<210> 1261  
<211> 440  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-023-Q1-E1-F8  
<400> 1261

aaattttgtg tttaatggaa tctgatggaa tagagccgga tagagttact tataacacct 60  
tgataaaggc atatggctac atgcgtcggc atgatctcgc agaagctacc ttttaagcaac 120  
agattttcaa gtttggaccg cagttgggtg gctttaatac cctaatgaat ggatactgtg 180  
aagacaaaaa gtttgctcgt gtcttggaac tatttgcgca actcaaggaa ttgggtttga 240  
aaccagatgt taaaacgtat tctactatta tcaagggaca aatattgtct ggtgagaatt 300

catctacagt catgtgttgg tatcgacaga tgacagacga aagtgtttat ccggatttga 360  
 agcttgctta atctgtacta acctttttca acagaaatac atgtgcagaa ggagtttgtc 420  
 ctgtgttgaa cgacttgcct 440

<210> 1262  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-F9  
 <400> 1262

ccaacccttc ggggcaaatt tccggacttg gggatggaaa atcctccttg gccaaaacac 60  
 catatttcat tgcaatggaa accgacatat ttacaaattg ttaatccgcc ttgttcattg 120  
 aaaaatttgc ttggtttaca attatccaat caaaagcgac attggatagt ttctctttca 180  
 caatttcgag aagaaaagaa tcacgcctta caattgtata ttattcatgg gcttattcag 240  
 cgacatgacg aaaaggatct tcaagattta tgtctcgtga tgatgggcag tacacgtaat 300  
 gaacatgatg cagaaagagt tgctcaactt tgtcgtttgg cagatgaatt gaatatcaca 360  
 tgctacattc gtttcatcgt caatgcaagc catgaagaaa tttatga 407

<210> 1263  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-G1  
 <400> 1263

tggagattaa ggctgagaag gagcagtagt tcgcttccgg agcctgaaac aaacactcat 60  
 atatacatat acatatatat atttcctata tatatagcta ttcttcaaat ggtttccaaa 120  
 aagacgaaaa aatccaccga aacagtctct tcaagattgg ctctcgttat gaaaagcgga 180  
 aagaccacgt tgggcttgaa aagtacgttg aagagccttc gtcagggaaa aacaaaactc 240  
 gtggtcttgg caaataactg tcctcctctt gtgcgctcac agattgaata ttactgtcta 300  
 ctcgccaagt gcaacgtaca ccactttcaa gggaataaca tagaactagg aaccgcttgt 360  
 ggaaaatact tccgttgtgc ttgttttagga aattttggac ctggtgactc tgatattct 419

<210> 1264  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-G11

<400> 1264

gttgtggagt aagtgcgctt ggcaacaaac taaaagatgg caagaagaat catcggagct 60  
 tatatgtctg acgctactgt agcgtctcta tttagtgtga aaatgttggt ctaccttaca 120  
 atacttgctg tctctatcac tattgtgggt cttatgggta agagttccga cggatatttg 180  
 gttcacagtg ttccagcgaa agacgaatat tgtgcataca agtcttcctt tcaagtaaac 240  
 caccacggca tagcttccta ttgcaagtat atcatggctg tagcagctat tggtttggtt 300  
 atcagcttct tcgagttttg gtatgcattc ctcggaattt 340

<210> 1265  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-G2

<400> 1265

aaaacattgg ctgatagata tgcgtctcaa gcagttcaaa caaagactgt ggaagggttg 60  
 gaaacaaccg ctgatttacg aaaaaagttg attgcgactc atattaacgc tctccctggt 120  
 cgtttccaac gcgcaagaga agagttgaag gattttgtac aaaagactcg tacgttggac 180  
 ttacgtatc ttgatgcgtt tcgttttggt ttccgaagct tagagttggc ggcatggtac 240  
 tggatcgga agaccttggg gaagagggaa cttcccaact cgatatgaag tgtgtcttcg 300  
 gcaactcttc ttttctcgga aatacaagct tttatgtgct cgtgttttat aaaatatagt 360  
 tg 362

<210> 1266  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-G3

<400> 1266

ctcagcttga ggaacaaaga gcttgctggg gggtggacgt tatttatgaa cttgggctct 60  
attgacacag gaattaatgc tccttttgac cggtttgacg acgcctcacg tggagaggac 120  
gcagcagtaa ccaaaaatat agtgcatatt cgcttgcaac aaagaaacgg gcgcaagtgc 180  
ttgacgacga ttcaagggtc tgacacaaaa ttggatttga ataaaattac aaaggccttc 240  
aaaaaggagt tttgttgcaa cggttgtgtc gtatacgacg cagaactggg aagagtcac 300  
caactgcaat gagaccagag ggataaagtc aaaaagtctc tagttcagga gaaattatct 360  
gaaaaagacc tgataaaggt gcacggtata tgagtgtcgt tgccgtgtaa agaaacaaag 420  
cagtcgtcag tg 432

<210> 1267

<211> 436

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-G4

<400> 1267

atctcttttg ggtgtgaaga gttgcgcaaa agagagaaag agagagaaat ggcaacgacg 60  
agtggaagag gaggaggaag tggcggtggg cttaccggac ctccaaaacc accacctcac 120  
gcagcaatac aagatggacc tcctcctggg gggtatccac cgggtggatgt tcgtagaaac 180  
ttgccc aaag ttgggccttc cgggtactact ttgttgatag gcatcggact gatcaccatc 240  
tatggggtttt ggggagcgac caaatcagct caacgtagaa gaagactgaa ccaggaaaag 300  
tatcaaattc gattggctat tacgccgtat ttacaagccg aacaggaccg tttggaagtt 360  
aaagagacgc atcgtcgcct tcgtcaagaa gcagaactta tgaaggatgt tcctgaatat 420  
caaccgggag aaaatt 436

<210> 1268

<211> 444

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-023-Q1-E1-G5

<400> 1268

ctcttcgact gtatcgcgga catagaatgg caacagataa agtcagctaa gaagatatac 60  
tcttatgtaa aagaatcaaa aaccaaagaa tatttggagc tagacgattc gttgcagcag 120  
ccagtggatt catctttag tagaccaagtgg ctgtttattg caacccact gttggaagtt 180  
gcttgactg atgggcagcg aattgaaatg attccttga agaaagatat aaaggaattg 240  
tttttctcta ctttaaagaa gaactttgag tcgaacgaag cgtcatggga gtgcagtgt 300  
gttgaaaccg cagttgctgt ttttatccag tattatgaac agtgcggtga acagtactat 360  
ctagcaggca aagattatga gctacctggt tattccanag tanaacagat tcggagtatg 420  
attgaagatg ttctacaaat agag 444

<210> 1269  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-023-Q1-E1-G6  
<400> 1269

cggacgcgtg ggccgacgcg tgggtttttt gtaaacctcct agtcagtcaa cattttcgcg 60  
tttgatttat gtttttgttc tccaaaggca gagttatttg tcgtttgacg cagttggaag 120  
tgacgatcct tttcagatac ataaagacta tatggcttcc atgaaagttt ttataagaga 180  
aatcgacagt aagttagcta tatttgacct gtcaagagct aagtgatacc gctgaaatgt 240  
ttttctcaac tttaaaaaaa gaactttgag tcgaacgaaa cgtcatggga gtgcagtgt 300  
attgaaaccg caattgctgt ttttatccag tattaatgaa acagtgcgtg gaaaaagtaa 360  
aaacgagggg gcaccatta aggatctacc tgtttattcc agggtaaaac aga 413

<210> 1270  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-023-Q1-E1-G7  
<400> 1270

cccacgcgtc cgtgccactg cacgtgttgt ttgttggggc aacgaaaagg ataagagagg 60  
aaggggcaat gcatatatga aggaatggag ggaaaatctt gtgtaggaga caccctagga 120

aaaccgccaa atataaaaga tatacagcaa gacaaggaga acctttttaga atcctggacg 180  
gaaacgagtc tttcatcaag aattgctcaa aagtggggaa agttaccgag taccagtttg 240  
ttttatctac actctccttc tactagtatt gtcataaag agtctctctc ggatgagaac 300  
gataaaaatc gcatcgattt ggaacaacta ttgcattcta caaagtcctt ttctatttcg 360  
gacagccgct atccttttcag agacgaaaaa agcaccaacc atcgacaaca tttattacta 420  
gatac 425

<210> 1271  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-G9

<400> 1271  
ccaacgcttc gggaggaacg atgaattggc aaaccggtcc taggaatata attgttaaaa 60  
ggatacaaac gctacggctt ttctgggtga ttatttgcaa cgttttccca tatagttact 120  
ctatacaatt ttatatgaac gctggaacga agcgttgtct ttcggaagaa attacctcaa 180  
acacaaaggt gtttggtgaa tgtctttag taggtgcgga aggctccatg tccgtagatc 240  
tgttgattcg aggacctcaa ggggagacta tagtgcaaca gaagaacata gataagcagt 300  
catttagctt cacaacacca cagcacgttc ttgctggaga ttcgagtttg gcttccaacg 360  
atattcactg gcctcctgca agttatcact tttgtttcga agctag 406

<210> 1272  
<211> 338  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H10

<400> 1272  
tcagcccacg agtccgcca cgcgtccggt gctgtaaagt gagaaaacgt acgagaaaac 60  
ccaattgagg aaaaaaaggc aagtaaaggg cggcccgaaa aaggaaaggg cgtaagacgt 120  
gatacagagt aggaaaaaca aaaaaaacg caaaaaaaaa ccaagaaaaa aacaaaagca 180  
acaacaggaa aaagcgggac cagcaaaaaa aaccgaccga agaacaacag caaacaagac 240

gcaaagaacc caaaaaaaaaa aagggggggcc cccccaaaag tttcaacttt atttaccceg 300  
 taatgcgagg ttaaaacccc tcaaaaaggc ccccaaaa 338

<210> 1273  
 <211> 237  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H2

<400> 1273

ccgccaaagt ttcacctctt cgagaggaac gtaatccatt gaccaagtgt gagaaccaa 60  
 gtccatggaa aaggaacagg aaaggccaga caactaccca ggaggtctag agtacatcag 120  
 gaaccacaca tcacggcagt atgactccga cacggagtaa tgtgaatgaa ggcaggaaac 180  
 tcattcaaca cgagagtgtg ccgcgcgtac cttttccata atgtcccagc gagtgcac 237

<210> 1274  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-023-Q1-E1-H3

<400> 1274

atcagcttga agaacaaga acttgcggtg ggttgagcgt tatttatgaa cttggactct 60  
 attgacacag gaattaatgc tccttttgac ccgtttgcag acgcctcacg tggagaggac 120  
 gcagcagtaa ccaaaaatat agtgcataatt cgcttgcaac aaagaaacgg ccgcaagtgc 180  
 ttgacgacga ttcaagggtt tgacacaaaa ttggatttga ataaaattac aaaggccttc 240  
 aaaaaggagt tttgttgcaa cggttgtgtc gtagacgacg cagaactggg aagagtcac 300  
 caactgcaag gagaccagag ggataaagtc aaaaagtttc tagttcagga gaaattagct 360  
 gaaaaagacc tgataaaggc gcacggtata tgagtgtcgt tgccgtgtna agacac 416

<210> 1275  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-023-Q1-E1-H7

<400> 1275

gggcgccatt acatacaciaa ggcgttgtgg tggttgctat gcagtacata aaccgaatca 60  
aagtgaagtt ttctcaaaag aaaacaagtt cctcccctgc acatactatt tcagatataa 120  
gggaacacat tgaacttctt gagaggaagc agcaattaca gcaagcaaaa gtggatgccg 180  
aggtacaaaa ggccaagaaa cttttaatgc aaaaggatag aagagggggc cttatggcgt 240  
tgaagcgaaa gaagcttctt gagaaggaaa ttgcaaacac ggaaaatatt cgttacaact 300  
tggagctaca ggctctcaca cttgagaatg caaacgcaag tgcacaaaaca gtggacgcct 360  
ttcgaagagg aaaccaacag ctgagaaggg ctcacgacaa g 401

<210> 1276

<211> 244

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-A1

<400> 1276

cccacgcgtc cggtcgaaag tattgcatat cacgttaggt caagagtgc aatgcgagta 60  
gcagtatgag tctggacttt ttggtcgcag ctttggtttt tacacaattc aacaccgcac 120  
atgaaacca tagtgtcagt agaaggctgc gtaaccatga cgatcatgttt acgcattcgt 180  
cgacacattg agtgcaatga ctatgggaga aagtcctata tgactccaga aatcgcatac 240  
atatt 244

<210> 1277

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-A10

<400> 1277

tgtatggaga ccaggcaaca gctctcggtc atcatctgta taagagttca tcgttgctc 60  
cttacaaaga agatgcagtt cgtcaagtag tgcaagaaat agaccaactc tatgccaat 120  
tagtacaact tttagaaaca gccacaacg accttagtga cccaaggata ggaggaacag 180

ctatatattctt tcacgcgagtc attcttcgta ataagcgatg tgttcttgca tacttacttc 240  
ataggtttta tcgtttgcgc gatagtagat atctcgtaat ggatgaccga atagaagaaa 300  
atttaagtgc ttctgaacaa gaattgttga caaactatga acaacttgta gccagctaca 360  
gtgataaggt gcaaatagac attctctcgt cgttgtatcc aactcgagcg ttgt 414

<210> 1278  
<211> 369  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-A11  
<400> 1278

gaggaccgaa tcagggtaag aggtacagga gcaagaagag aagagagaat gctgggtgga 60  
gtagcgaaac aagagaaggg aagtaaaagg taagaaagag gaaaggttta cgagagaagg 120  
aagtagaaag aagagagtgt aaggcggcgt cataatagaa atccgaaagg agtagaagaa 180  
aagagagaga agaaagaaaa gaagagaaaa gccgtactga agaccgacac aggtactcga 240  
ggagaaatga gacccaaatt aaggtgagag aatggacgat aaggaactaa gcaaaaggat 300  
atggtatctg cggtagaaca tatgaaagaa gcagcaccga ctgttttagca aaaacacagc 360  
actctgcag 369

<210> 1279  
<211> 362  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-A12  
<400> 1279

ggcatattaa aaatactgca gtcttgtgaa agctttcttt ctcttgtct tgataacaaa 60  
cgagagagga atgaccttga ataaacgact ccactttttc tcacttgaaa aaaaaaaaaa 120  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaaag aaaaaaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aacaatacgg aaatactaaa agaagtactc 240  
gatgaaaaaa gatacccaac ttaatgagag acaatggacg ataatgaact acgcaaatag 300  
atatggtatc tgctgtataa catataaaaag aagcagcacc gactgttttag caaatacaca 360

<210> 1280  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-A2

<400> 1280

agctcttttc tgttttggtg agagttggtg cttggagact aagtcatatc gatcctcata 60  
 taaagttatt cttccataat gacaccaact tgtagtatac atagactcct gaaacagttc 120  
 atcgctggaa agtattaccg gcaggttggt tattaagtcc tttactgttt ctgggcgggg 180  
 aatatttggt atcaacatat gatgcaagac aaagtacaaa tgagacatca atacgtttgg 240  
 cgcctagttg gagtgtttta aggtggcgtg tttctgctca cttgattggc acatagatag 300  
 cattcctttt agcagctatc tttgcgtaat gtgggaaact ttcagtcggt atgcttaggc 360  
 atgactttta ctatcactgt atgggtagtt atcacccctc cgaagtccta aat 413

<210> 1281  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-A7

<400> 1281

cgccggcagg taacggtcaa ggggtcgagg gacgagtcag tttcgattgg aaaaaagccc 60  
 aactatgcta tcttgggtcc cataaacctc gcgtgttctt tctcggttg cttttgaac 120  
 ctaaattgta tagagtcacg aataacatag aacagtcatt gtctctcaat gtcttcctt 180  
 gtctgactgt agtttttctt tggttttgca agtgttgaag gacatagcta cgtgctgttg 240  
 tgactgcttc tttcgacatt gtttttttca ggatacatct tgctgtacat tttttcatgc 300  
 atacctagag acttacactg gtagctacca agttaaagc acaggtcgat acaagtcaaa 360  
 ggcactagac aaaaccgcta tctacttttc cttcaacgat gcgactagaa agtgacaagt 420  
 caatttgcaa gtggtagttt tgcaactgcg 450

<210> 1282

<211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-A8  
 <400> 1282  
 ggggccaacc aagcctccgg ctggtccgag gaaaaggatc ctctggtcc ccagggttgg 60  
 ggagtgggtt cctgcacttt gggaaggga acaacaagca ccaattactc aaagaattta 120  
 aagttacact ggataactag aactggata tctttgaaa tgagacgtca ttcttcccca 180  
 gaccaccaca ccgtaaagtt gcctctccgc atgatgaact cggagaaca gacgcgaccc 240  
 cgttacttgc aggagtggcc ttgtattcct atcgacgagc tatactcgaa aagttttcgt 300  
 tggaatcgaa ttggttgcta tgccgtgtac aacggtgacc aagcactttg ttatgtacgt 360  
 tacaacatac acttgcaaag aaagattgcc tttcacgcca tgttgcaacc agacaattgc 420  
 aaatttttca gagcctttgt 440

<210> 1283  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-B1  
 <400> 1283  
 cccacgcgtc cggaacgttg gaatgaatat ttagattggg ctgtgaaagc ttttcgtctt 60  
 agtacggtcg ttgcagcacc caagactcag attgtcacc atttatgtta tagtgacttt 120  
 caagatattc taaaagccat cgatgagatg gatgccgacg tattaacccat tgagaatagt 180  
 cgtagtgatg atgccatggt gcgtgccctt gccaaagtatg gttattcacg tgatgtggga 240  
 cctggagtct atgatgttca ttcaccggct gtaccgagca tcgaattttt gaaaaagaaa 300  
 atggaaggct tcaaaaagtc tggatttcct ttggaacgct tatggattaa tccagactgt 360  
 ggtttgaaaa cgagacaatg ggaagaagtt attccttcct tgagaaatat ggtggatggt 420  
 gctgtgcaat 430

<210> 1284  
 <211> 426  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-B10

<400> 1284

agacttgttag ctgttgtggt agttttatcg agcgtatgtc aagatgttga agaactggta 60  
aagctactgt tgacgaaact ggagataagc cagtctttgc gtaggaaatg tttcgcaaag 120  
ttttacgagt tgctaactcg aggcgtatta ctggaagctg gtcttttgca tgtcctcttg 180  
ttgggtatttc caacttatcc atcgcatctt tatgatgttt tccataatgc tgaagatgta 240  
gttatgttat tgtatagaca aatgcgttgc catgagaacc ttattgacct gcagagttgt 300  
tttctaactt ttttgatgaa atggattcag tactttcctg aaacaactga tgtgggtacta 360  
aaaattttca agcgttatgc aacccatcaa gatcttgaag tacagaaccg agcatgtgaa 420  
tatatg 426

<210> 1285

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-B11

<400> 1285

gaggaacgat gaagtggcaa agcggtccta ggaatacaag tgттаatagg atacaaacgc 60  
tactgctttt cttgttgatt atttgcaacg ttttcccata tagttactct atacaatttt 120  
atatgaacgc tggaacgaag cgttgtcttt cggaagaaat tacctcaaac acaaaggtgt 180  
ttgggtgaatg tctttagtc ggtgcggaag gctccatgtc cgtagatctg ttgattcgag 240  
gacctcaagg ggagactata gtgcaacaga agaacataga taagcagtca tttagcttca 300  
caacaccaca gcacgttctt gctggagatt cgagtttggc ttccaacgat attcactggc 360  
ctcctgcaag ttatcacttt tgtttogaag ctagtcctct tcgtcctect c 411

<210> 1286

<211> 435

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-B3

<400> 1286

cgatgacttt tgtgtgaaat agtaaagccg ttgagatgca gacctttttg gataagacgt 60  
gtgagacgac atcgacgttt atatagtaga gcttttattg ttgccaactt tttctttctc 120  
tttgcagttt tttatacgct ttcttccagc agtctgtact atcatagata tcttcacagg 180  
agtagtgtca cgaataactt ggtagcaacg agtaggttgg tagctctagt gtcgtcaggt 240  
tggggtttag atcacttgct ggatattcct agcgtgcct tgaatctcag aagtgtcact 300  
gctttggaca gtcttttaga gtctgtgaac aggaatagag attggtcagt aagagtagta 360  
ataactcatt ttatgggtact gaagaagcca gatgtgaata caatgacgtt gttgttgac 420  
tgtcccacaa gtaat 435

<210> 1287

<211> 437

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-B4

<400> 1287

cccacgcgtc cgcgagcgcg tgggtttacg attcatgcag gtgtattgtt gagatatgtt 60  
ccgttgactg ccaatcggtt gacaggtatt gtctcccgag gaggatccat tcacgccaag 120  
tggtgccttg cacatcataa ggaaaacttt gcatacgaac attgggatga aatttgtgat 180  
attatggcgc attatgatat cgcattttct ataggagatg gtcttcgtcc tggaagtatt 240  
aaggatgcca atgatgaagc acaattcgcg gaattatata cacaaggaga acttacaaga 300  
agagcttggg aacatcatgt tcaggtaatg aatgaacgac ctggacatgt gcctttgcac 360  
aaaattccag agaatatgca aaagcagttg gattggtgtt cagaagctcc gttttatact 420  
ttgggtcctt taactac 437

<210> 1288

<211> 438

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-B6

<400> 1288

cggaagagac tacacatgag tagatattgg acgttgggaag aacatgaaag gttccttgaa 60  
gcaagaaaga tatatggtac tagagataca aaatctatag cagagtatgt gggcacaaga 120  
acagttactc aagtaagaac acatactcaa aaatttgaaa agaggttgga gttggcaaga 180  
agaacgggag gaccaggggtt tcgtgttcgt tccaaaaaga gtagtcaacg caactggaga 240  
aataggtggtt ttgtagacaa ctggagaaac ttacacgata gttgcttgag ttogaatagt 300  
agcagtgtta ctgtccaaaa aaatgaagaa gacacacaac ctgctgagta tcatgcggat 360  
atccatagtc catcttccat tcaacaaaca gatatgtgct caaacactac tgctgcagaa 420  
tcagattctt tcgagctc 438

<210> 1289  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-B7  
<400> 1289

cccacgcgtc cgccacgcg tccgcttggt cgcattgtgg attggagagt tggtagcgtt 60  
gcactgcgat ccacgacaac caaaagaaca agaaagaaag aaacaaaatg ggatgggtgga 120  
tactttctcg tctcctttct cgtgtacgtc gagtggctgc aatggacgat gcttgttcat 180  
ggaaaagcca aagatatttt agtcgtcgag cacctagaaa gaagcaagta gaggatgac 240  
tcttcgacaa tagcgtaaaa aaagaaccgc gaaaactttc agaatttaac ctttatatga 300  
agaagatggt gcctgtgatg aaacaacaac atcccgaact gagccatcgt gaagtattta 360  
aaatgtgcgc tcaaagttgg aaacatgcca gtgaaaatcc aaagaaacgg agatgagtgt 420  
tgtttgtacg tacgctttcg ta 442

<210> 1290  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-B8  
<400> 1290

gtcggccaag gcgtccgata actttggtgc attattgcca gtgacagtag aagaaacata 60

acaagtccaa acttttttga ctcaattttg atttctatct aaactggcat tgtaaataga 120  
 actcagagtg tcaagttacc cttttttgta ggaagagagt gacaatgggg ttgcgttacc 180  
 aaggcgcat gtctacgcag tcgtcgacac aagaaaaaaa gaccaggtca aaaaaccgaa 240  
 tgtgactcga taaagagtaa acaagcgtag ttcttgtaac gtagcagccg ctgattcctc 300  
 ttttacatag ccagctgttt gtgtcatcgt ctcttgcgta ggttggtcc ggtataacaa 360  
 ggccacaaag ccaatcttgg aatcgccgc gctttatgcc gattgatgat tcaagtttat 420  
 tttgaaagaa aaacaacgc 439

<210> 1291  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-B9  
 <400> 1291

cccacgcgtc cgagaatatc aaaagagatg gaagaagagc actgttcttg acacttgcaa 60  
 gctttattgt agcaatcagt tttttccaag gtcgatagtt aacactaaac agtcgatgaa 120  
 cagcacttgt ttatgtccta cccgtaagct aaggggagaac aacggaaacg gtatagtttt 180  
 ggtaaactgt ggttctttct cacccataac acttgacat cttctgttaa tggaatctgc 240  
 gcacaatttt gcagtttata gaggctttca agttctaggc ggctacttat ctcccgttca 300  
 cgactcttat cgcaagacag gtcttatcca tagtagacac cgcctagaga tgtgtcaact 360  
 cgccgtagag gactcttctt ggct 384

<210> 1292  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-C1  
 <400> 1292

agttgcggtt gacgtggggt agtgggtcaac caagagtcct tgggacacaa actatgtcca 60  
 caacttcata agtttgtaaa gtttgagtac ttgcaatgag ctatctagta ggaaataccg 120  
 aacaagactt acaagccaag aaaccaacat atgaagaact ggtggccgaa ctatctcaac 180



tcaaggcgga tttattcgca gaaagacaca aaagaaaggt agttgaacaa gagttgaaag 240  
 agttgaaaca gttgtcgttt tctatgcaaa ctcatatcga ggcagaagag gagtatatgt 300  
 cgaataaact cataaaacgg ctacagagt tgaaagagga aaaggaacgc ttggctgtgc 360  
 aaatagagca agaagaagag tatttgacga ataatttgca acaaaagttg gaacaactac 420  
 gaagagagaa agtaaataatt g 441

<210> 1293  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-C10

<400> 1293

gcttgacgta caaaatctcc atctacagtg tgtcgtaaag ggtctgagct ttactattct 60  
 gcatatgcaa agtcagtcg caatttctac tgttcatgga ggaagattca cgcaacagta 120  
 acgtcttttt cgcactggac ggaaacaagt ttcggagagt ggctttattg ggtgcaaaag 180  
 gggtcgggaa gtcattccatt gctaccgct ttgcagaaga cacctttttg gactcgtacc 240  
 ttccaacat agaggattcc tatcacgca cttgcagaca caaaaacgaa acttacaact 300  
 tggagatatt ggacactgga ggacaggacg aatattccta tctcggaaca cagctgacta 360  
 tcggagtaga tggatatgtg tttgtttatt ctatttgga cggtgcttca tttgatatga 420  
 ttctgtttgc ccat 434

<210> 1294  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-C11

<400> 1294

cccacgcgtc cgccacgcg tccgccacg cgtccgaaat tgtgggagag cgagtttttg 60  
 gtattttgtg tcctcaagca gtcattgttg gtttctacc gactatatca actgtttccc 120  
 cctaggacaa agtgaaagtt gccactgttc ccacgtatct aaatacaggg taattataga 180  
 aaatagtgtt ttttggaag agaggaacc atataaaaca aaggttgggc agcgttttgt 240

cgcaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaggcaaac acacaaaaaa aaaaaaaaaa 300  
 aaaaaaaaca tgaataaaac atcagaaagg cataaaaaat gtaaactcac aacaa 355

<210> 1295  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-C12  
 <400> 1295

cccacgcgtc cgccacgcg tccgcggacg cgtgggcgag ttggcaatga gtgagttggt 60  
 gcgacctggt cgtttctttg atagcggctt tggtgactta ttttcttgga cgaatgaccc 120  
 cttcttccgt gatgcatgga acttgatacc tcgagtaggt ggagctgagt ctgagttatg 180  
 gtcgccgaga atcgacctca ttgaaaaaga agacgcgttt ctggtgaaag ctgaggtacc 240  
 tggagtaccg agagaaaaca ttaaagttga cttgaaaggg gatatcttga gtgtgtctgg 300  
 agaaaaggct gacgaaaaaa agtcggatga agaacgagaa ggaacggtat tccataggat 360  
 ggagagaagc tacggaaaat ttgaacgaag tatacgacta ccaaagcaga ttgac 415

<210> 1296  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-024-Q1-E1-C4  
 <400> 1296

agagaagcct cgtgtagttt ctgtgcgtgt gaaccctaac aatcccatth ctctttctag 60  
 tgtcaaaact gcatcgctac aattgcattt tgtttgtttg aatgacgtga taactttatc 120  
 ttttctgtac cgaccacttg aattttcatt ggtgaagaaa tgtcgaaagc cacagttgag 180  
 acgtgcccaa ggcttcactg tatatcacgc aacgagcatt gtggttgat ttgcattatg 240  
 tattgcagct ttcagtggat atttgtttta tcgacgcacg aaacgacagt caagactctc 300  
 tacgacaaag ggagactaca ggctcttcg actgaacatg aataatttta actaggcaag 360  
 aatgcggttt attcatttgt tcctgtattt gttggatatt cttcactcan acactctata 420  
 t 421

<210> 1297  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-C6

<400> 1297

```
atctgctaga cacactagag ttttaaccaag ttgtgatttt tgtcaagtct gtgcaacgag 60
ccaatgcggt gaataagctt ttggtggaat ataactttcc gtccattgca attcatagta 120
gcatgccaca gtcggaacgt atctcaagat atcaaagtgt taaagatttt cagaagcggt 180
tactagttgc tacggatatt ttgacacgag gaattgatat cgagagagta aatatcgtga 240
taaactatga tatgccggat ttgaaagggtc cagaagctac agcaaagaca ggagcggatg 300
cttatcttca tcgagttggt cgtgctgggt gctttggaac gaaaggattg gcaatatcat 360
ttattagttc caaagacgat aatgacgtgt taaacgaagt acagagtcgc tttgaagttt 420
ccatcgagcc cctt 434
```

<210> 1298  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-C7

<400> 1298

```
ctgacgcgtg ggggaagatg ggagactcag actattcatt ttctcttacg acctttagtc 60
ctagtggcaa gttggttcaa atagaatatg cgttgaacgc tgttgctgcc ggtgctactt 120
ctcttgggat tcgagcgaaa aatgggggtcg tgatcgcgac ggagaaacgt atgccgtcca 180
ttcttatgga aagtcatact ttagaaaaga tatcttttat ttcggaaact acaggaatgg 240
tgtattcggg tatgggtcct gattcaagag tattattgag aaaggctcga aagtttgctc 300
aaagttacta tcaaacctat aaagagccca taccagtcgt tcaacttgta cgagaaacag 360
ctttcggttat gcaagaattc acccaatctg gtggcgtaag gccttttggt gttagtttgt 420
```

<210> 1299  
 <211> 396

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-D10  
 <400> 1299  
 aaaatgtctc aggaataacca gctcacctac ttcaatattc gtggtttagg cgaacctgtt 60  
 cgtctactat ttgaagacaa tggcatcaaa tactcggaag agagggtaga agctggcgag 120  
 cagtggcaaa aactcaagca agaaggtgtg tcttcaggca agatccccctt tggtcagatg 180  
 cctgtattgc gcgatgggag catgtattta gcgagagtgt gtgcaatact tcgtcattta 240  
 gcgagaaaac ataacctcta tggagacacg gaagaagaga aagcgttggc ggatatgac 300  
 aacgactttg ccaacgatct tcgaactccg tacgtgcgca tgatttacag tgatacgtgg 360  
 aaggagatgt tacccgagta tttggaaacg gcgaag 396

<210> 1300  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-D11  
 <400> 1300  
 cccacgcgtc cgcccacgcg tccggtctca acgagtactt tgcagtcgca tttgtgtttt 60  
 gtattttggat ttcttgttcc atttgcaagt ccaaaaaggg tatgacattc aagagcatga 120  
 gacaaaatgt tggcagatga taacaaaact tcagaaggat acttcagaac aggttcgaag 180  
 cgaagttatc gcaactgttc gatggattaa aaacaagtcg ttactagaag ggatgggttc 240  
 atgggttggtg gaaaccatga aaactagcac ttcgtctaata gaacaatatg cagctgaaca 300  
 gactcttcga aaattgtatc aaaaaggaac acttttaacg ctttctctag gcgaaggaga 360  
 gaactcttgg attaccagca acatggcccg tttgcagttg gctgtaggtg aaa 413

<210> 1301  
 <211> 265  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-D12  
 <400> 1301

ggcaaatacg ggaaagcagt aaaagaagaa agagaaagga aaaaactgag tatcaggaag 60  
 aaaagaggga gtagatgagg aaagaaagat caaggaagta agagtaagag aaggagtaat 120  
 gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtaa agcgcgtagc ttttgcataa 180  
 tgtcccagcg agtgaaagag gaagcaaaaa gaaagaaaaa gaagtagcca ggtaagaccc 240  
 gaagctagtt gatcttatgc tgtcc 265

<210> 1302  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-D2

<400> 1302

ggaagaacaa aaagacaatc ctaataagac cgcttccggt gtttctgaac aagacaacca 60  
 aagtgaacaaa gaacaagata caacaacaac tgttcaagaa gagcaacaaa agtacaacaa 120  
 taataacaac aatagtgaga actctacagt ccttggtgaa gataccaagt cccaactagt 180  
 gagagccttt gcggatgtta ccaagggttc gtcttctcaa gtaatgcaa gctctgcaag 240  
 aaactgtttt acaactatt gattgggttac taggctgaag aatatcttga aaacgccaac 300  
 tgggagctac aaacagcagt acgacaatac tttgataaca acgagaatgc gactatcgga 360  
 gaaagctctg tccctactgc ggatagtatt gcagcacaca ttacagaaat aagaaagaaa 420  
 gcaagtgaac tt 432

<210> 1303  
 <211> 222  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-D3

<400> 1303

gtgcactaca aatattccca atccaaaaaa taaatacgaa aatactcaag ctttatttaa 60  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120  
 aaaaaaaagg gagggaggag ggggggaagg aaagaggggt aagggggaat ggaaggtgca 180  
 agggacgtta gggggggcag taagggggaa tcaattggcg gg 222

<210> 1304  
 <211> 319  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-D4

<400> 1304

cccacgcgtc cgccacgcgc tccgattctt acctgaaacc aagggttcta cattggaaca 60  
 aatgagagtc gtgtttgagg aggggtttatt caccatcgca gcttatcact gtcgtgctgg 120  
 ttggagaaca cttcgtaagc ttttgggact tccagttcca gacactcctc ttgtttctcc 180  
 ctatgataag gcctacgcta ttgaccgcgc taagagagaa gaagagatga tgcattgctgg 240  
 cgaagttgcc aagtaatgct tgacatgatt tatattgaga tggtagtttg aaataaacat 300  
 aaatcttgct tgttatgtt 319

<210> 1305  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-D6

<400> 1305

ctcaagtgga tcatcccacg ttggtaaaga tagacttgtc tcaaggcagc tttaaagtac 60  
 tccaagactg tgacagagat ttagaatgtg atcataatac caagtttcag ttggaactta 120  
 ttcagtatgg tctcttttca cctgggtttt ggacgagaga aaatgttctg ctcttctatt 180  
 tggagctcgt gtcaggtgta ttcataaggg acactctcta ctttttctac aacaaagggtg 240  
 aagaacattt gtttgcgagt ttaatgctgt tgttgagac acaagtttca ctgtatgcag 300  
 acataaaaac aaactgggag aaacgacact ttatcgtttg cctcatcgtc aggtctttgt 360  
 gtgaggaata tcaacgacag tattcagagc tatgttcacc gaatgaaagc acgaaagata 420  
 tgctactag 429

<210> 1306  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-D9

<400> 1306

gggtattgga gagagattgc ttgttgaaag aggcaagttt gaagtatgga acatgtatcg 60  
cggcggactt cactgatgttc ttgggacttg agtacttttag aggagtcaca aaaggagaac 120  
ctaaatggca aagagataga ctgtattcta acacctgaaa aaagaaccat gccaccttcc 180  
atatccacga aagaaataga aaatgttctc aaccttttcc tttcttatga tcaagataaa 240  
gatggtaaaa tcactatcaa gcagcttaag gaattattat cgtcgctttt tactcaagaa 300  
agaattggaa agattttattt cttcaacttt ctgtagatag ttgtatgat agtgggatta 360  
tagactggat tggtaaagcaa cttgaagcgc ggtcgattcg tcgctaactt tggcattttt 420  
gt 422

<210> 1307

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-E1

<400> 1307

ggaaaaagag agaggcctcg ttgtccttgt cttatggaag cgtctcagcg atggactggg 60  
cgatatatcc aaaagtgcct tctcacttat ccatcacttg gacagttgag tagtaaattg 120  
cgccactttt ccacagcacc ttgggtacaa gatacttttg aggaatattt tacgtttcct 180  
agagagagtg aaagaaataa ctacgcagtg aattggtcgt tggcaaagat aggagtgcct 240  
ccaaaggggtg aagtttttta caacgtgcct tcgaggacga ttgttgccaa ctgcctgga 300  
aagcttagcc gtgagaggag gcacttggtg gtccccatc aaaagacggg caacttccag 360  
gaatttgtcc taggaaataa cttgaaaccg agagaatatg caaaagcctt gaaagctg 418

<210> 1308

<211> 415

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-E10

<400> 1308

accttacctc tccaagaagg tgttgacagg ctgtcgaaag aacgtgctgt gaagtgagag 60  
aacgtacgag aaagccaagt gaggaaaaga aggcaagtag agggcgggccc gagaaaggag 120  
agggcgtaag acgtgatata gagtaggaag aaaagagaag agagctagaa aggaggtaaa 180  
agaagagtaa aaggactaga agaggtagcg aattcacgag gaaggagcgt gaaggaagga 240  
ggaatcccaa gtaatcgagg aagaaaaagc ttcgggtgaaa gcgtgaacgg attttgtaca 300  
cactgcccggt caagttctgg aagtgtgcta ggaataagca ggagaagtag aagagagtag 360  
gaaaagaaga aaggaagtga agacgtaaga cgtgaaaaaa aagcgtatga ctggg 415

<210> 1309  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-E12

<400> 1309  
attattgaaa tgatcttcgc acgtatcaca acctgactat acaatgtaca gttcctat 60  
gaaaagttac tcacagtttg ttttattcgc aactgtgttt gtatgtcttt tcgcacgagc 120  
ttgcaatggg agaacgtcag aaagtctaga ttggctcggg ttaggagatc cagagtttgc 180  
gagtttcaac gggcgctttc caactttaag tgatttgaag cgtttattct tcgaattagg 240  
ggaaaattta gcggaaagaa tagagttatt gggttctgta actcaacact ctagtcgaaa 300  
gtttctgaat agaccatttc tttcttgccg aaataggaaa gcagccaatc ttatcaaggg 360  
ctgggttagaa gaggcaggct gctataacat ttctatagat ttgggttgga atgt 414

<210> 1310  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-E2

<400> 1310  
gtcgtgtacg aggggttggtc atttgttgag ctgaagagtc aatgaacaag cttcagttgc 60  
tatacgtaac caacaagct gtttcaaag catggcaaag agaacagaaa aggttatact 120  
ccgagaagaa atcagttgca gaaggaactt tgggaagcag gtggaaggaa agagaaactg 180



cacaagagag cgcgtacttt aatcgtgaag atgatgcagg cagtacaaag gttagcagcg 240  
aaacttcggc agcatattga gccatcggat gaagtactcg cccaacaaag aaaagggcgtg 300  
gcagaaatct tacaaaagca cgggtgccag cctaataaaa gtttgattga agatattgtc 360  
cgtttctttc attaatcct ccggtgttga tgttttagctg ctgttcaacg aaagttttgt 420  
ttggga 426

<210> 1311  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-E3

<400> 1311

cggacgcgtg ggcggacgcg tgggcggacg cgtggggggc aatgtacagg gaagtatgac 60  
ccagtaatga ggagtggagt aaacagaaaa ggaagtaaaa ggaggggaatg aaggggaagtt 120  
atggcaaaaa cacgtgccag cagcagcggc aaaacgtgtg tagcaagcgt agagcagaag 180  
aactgggtgt aaaggtcgag tagtagagta agtgtaaaag ggaaaggaaa ggagagaaaag 240  
aggaaaggga tgaaatgcag agatctctag agaaaggcaa gaaagaaaag aaaggaagac 300  
acagtaaag aggcgagaaa gcataggaag tgaaacggat taggaaccgc tgtagtctat 360  
gcagtaaaag aaagaatgag taagaaaaaa gggagtc 397

<210> 1312  
<211> 226  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-E4

<400> 1312

cttcattgga aaaggaccaa ctgggaaagg aagctcagtt gcatcaggat agtgccctaag 60  
aagaagcaat gttggttggg tgttgatgtg ttggtggtgg attgtgtaca tatatagaga 120  
gagtgtgtgt gagagaaaat gctttgtgag tgaccactcc tcaaaaggca gtgtgaacaa 180  
atcctcacia agcaaaagag gaaaataaaa gctctttggt gatttt 226

<210> 1313  
 <211> 444  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-024-Q1-E1-E7  
  
 <400> 1313  
  
 cggacgcgtg ggcgtcaaca acaacaggaa attcattgat ggacaaacct caagtggatc 60  
 atcccacgtt ggtaaagata gacttgtctc aaggcagctt taaagtactc caagactgtg 120  
 acagagatTTT agaatgtgat cataatacca agtttcagtt ggaacttatt cagtatggtc 180  
 tcttttcacc tggtttttgg acgagagaaa atgtttctgct cttctatttg gagctcgtgt 240  
 caggtgtatt cataaggagac actctctacc ttttctacaa caaagggtgaa gaacatttgt 300  
 ttgcgagttt aatgctgttg ttggagacac aagtttcaact gtatgcagac ataaaaacaa 360  
 actgggagaa acgacacttt atcgtttgcc tcatcgtcag gtccttgtgt gaggaatatc 420  
 ancgacagtt atcagagcta tggt 444

<210> 1314  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-024-Q1-E1-E9  
  
 <400> 1314  
  
 cgaatgtttt cgtttctcga aaaggaaaaa cgctctatta ggccaaagtg aacgactagg 60  
 atcttctgca agtgcagtgc aacttgtagt gcgcggattg ggatgataat aatgagcgcg 120  
 agacacgcca caaatattgt ccaagataag cagttacact tgtgacacag tgaaggttca 180  
 aggcaaccga ggacagactc tagttctcga ggtggaacag gtgcctgggt ccgtcgaaaa 240  
 aacataatta tcccaaaagt ctggaattca aattggctag gtatcggaag agccacaggc 300  
 acttgctata caaagagtcc ttccggctgt tggcgtaag gccatccatc tctcttgtgc 360  
 aaggacgttc atttggggcg ttttgggtggc ggtgcaccgc atataaaatt tcttcaagtc 420  
 c 421

<210> 1315

<211> 443  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-F1

<400> 1315

gcggcgatcat aatagaaatc cgaaaggagt agaagaaaag agagagaaga aagaaaagaa 60  
gagaaaagcc gtactgaaga ccgacacagg tactcgagga gaaaggagac ccaaattaag 120  
gtgagagaat ggacgataag gaactaggca aaaggatatg gtatctgcgg tagaacatat 180  
gaaagaagca gcaccgactg tttagcaaaa acacagcact ctgcagaaaa gagaaaatgt 240  
aaagtataga gtgtgcggcc tgccaaatag tagagaagaa atcgatgaaa gtgaaagcga 300  
gtaaaagatg aggtatagag aatggcggtc ctaactgtaa ggatccaaag gtagcgaagt 360  
aaatagacgt ttgaaaggcg tccagtatga aaggagaaac gagtgtaca ctgtctagtc 420  
gtccaactca gcgaaacagc aat 443

<210> 1316  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-F3

<400> 1316

cccacgcgtc cgaattaaag tagttgtttt atatttcgct gatatgcctt tgtttctcaa 60  
aacatattga aagcttttga atgtgttaaa gagactgatt tttctttatt tttgttttcg 120  
tgctagaatt tgtttatgtt tctgtttgt cgcctttctt ctatttctaa aggacaagcc 180  
tttgaacacg ctgtgttggt gtatctttcc tacttggtt ttttcatacg tagtactgga 240  
ggagtgtgtg acggcgggtat cgactttcgt ggaacttgga aacctaataa agcaatagag 300  
cctgtacctg tcgtcgggtc gtgtaaagca ttatcaggaa aggttggtgt tcacgttatc 360  
agagagatgg aaggaatctt gtgccgcgaa gagcctggta ccttggtgtc tatagtgagt 420  
gagaagggt 429

<210> 1317  
<211> 385  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-F4  
 <400> 1317

```

cggacgcgtg ggggccagtt tcctcaggag ccaatgaaga aactttttgt caaaatatta   60
tcttcgaagc tgatagtatg gaggaatttt gcaacaatta tttcttcgct tctacaagtt  120
ctttgggcct aggatgcctg aaacattgcc tcagaagggtg cgctcacctg gattgtctgt  180
cagaagacca aggggaaaga cttacaccag agtacacgtc taacgagtgt actgttcaaa  240
atatttgttt ccctgagctt gcaacggaga tatctcaaga tgaagtttta gagaactatc  300
tagttgatga ttacccaat agttccaacc ataattttgt gatcgaaagt tggcggtcat  360
tccaaaaaga tgatttttcg ttgtc                                     385

```

<210> 1318  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-F5  
 <400> 1318

```

cggacgcgtg ggggtggtgga ggaggacgag tcgacgaaag atcggttgga tcgctacggc   60
tattccgaga tattggaaaa cctatgggaa atggagagtg gagaacacta tttgttggtg  120
ttccaaaaga gatgaacacg aagaagatat tcttgaata ggaaatagta cccgaatgac  180
gagacctcaa ccacctccac cggaagttg ttgtggcaat ggttgtcctg actgtgtatg  240
gacggtttat ttacgacaac tggaggaata tgaagaagaa caaaataaga gaaaaaagc  300
acgagatgat agataaaaag atattcacgg gtatggctgt ccaacgcgcg gcatattttc  360
caggatggat aaaaaagcca acgaccacag aaaaaataa cacagctatt cgtgcgct   418

```

<210> 1319  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-F8  
 <400> 1319

gggccaacca agcctccggg ttgtatggaa ccaattaccg gaaaatgtta tgaaggcggt 60  
 aacggcattg tttgaaattg gcccggtttt ggtaaagg ttttgggaac cacgggcgga 120  
 tggctctgtc caacaaggat tggttcccaa ggttgccaac caattggcct tggaaatggt 180  
 taatggggca tgtaaacttg ccaaaaatga taacttacac tttgcacaac tccgcaatca 240  
 agtcgaatct cctgcgggaa ccacagtta ttgtacatca gcgttggaat atggacaatt 300  
 ccgaaaggca ttgattaatg ccattcagga ggctgtttta cgtgcaaaac aactttgatt 360  
 attcttgtgg atgatcactg tcattattat tattgttgtt gttgttgttg ttgtcatgat 420  
 gatcatcaga atgtggatga tggatatgaa 450

<210> 1320  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-G1  
 <400> 1320

aggacagcca atagcagatg gattgaagtt aatgataaaa gagggagtaa agccaacaag 60  
 agcagaggga atgatgtata aagcagggcc agtagtaaca tggatgttat cgatgctagg 120  
 atggagtgtg gtaccaatag gagaaggaaa ggtaatagtg gatatagaag tgggaataat 180  
 agcatggatg agtataggat cattgggagt atatggagta ataataggag gatggggaag 240  
 cagttcgag tacagcataa tgggaggttt aagaagtga gcgcagatgg tatcgatatga 300  
 attaggaatg ggagtaatga ccctgtagt acaccttgtg gacacttgta ttgttggctt 360  
 tgtatataca agtggatggg tgctcatcct gaatgtcctt cctgtc 406

<210> 1321  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-G11  
 <400> 1321

cccacgcgtc cggagcgcta ccggtgcttt tccatcctcc gaccacagca accactcctc 60  
 tagttcgcggt caacgactat tacaacaaat ggaataccaa aatggatgg aagataaaga 120

aaacgaagca cgtcaagaaa tcatcgacac gcatcataaa gtgatggatg gcagtctcaa 180  
 gtccaagatt tcttcttggt cacaggacaa caacgatggc aagaacatga ggaagaaaga 240  
 ggcaaatacg ggaaagcagt aaaagaagaa agagaaagga aaaaactgag tatcaggaag 300  
 aaaagaggga gtagatgagg aaagaaagat caaggaagta agagtaagag aaggagtaat 360  
 gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtac agcgcggtacc ttttgcata 419

<210> 1322  
 <211> 447  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-G12

<400> 1322

cagtacggtc aggattccgg gtcaccagcg tccaccagc gtcgaatacg agagcaaaac 60  
 tgtcaaaactg gtaattatgg ataaggaatt ttttgaagta gacacaagca tggtagccct 120  
 ttcggaacca ttaaaaaccg tctgggaaaa tacggaggat acagaaagaa taccctgtgc 180  
 aaaggtaaaa ggacaaattc ttgcaagggt tatcgaatat tgtagatctc acacactctt 240  
 aaagaccatt ccacactctg aggatgatat tgagcgctga gatagggaat tcctaagtgt 300  
 atatcaacca cccctttaac atttgattct ggctgcaaac tatttggata tcaacatctt 360  
 gttggatata acttgtaaac gagtagcaga tatgatcaga ggcaagacgc cggaagaaat 420  
 aagaaaagag tttaatatgt taaatga 447

<210> 1323  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-024-Q1-E1-G2

<400> 1323

ctaggcaaaa ggatatggta tctgcggtag aacatatgaa agaagcagca ccgactgttt 60  
 agcaaaaaca cagcactctg cagaaaagag aaaatgtaaa gtatagagtg tgcggcctgc 120  
 caaatagtag agaagaaatc gatgaaagtg aaagcgagta aaagatgagg tatagagaat 180  
 ggcggtccta actgtaagga tccaaaggta gcgaagtaaa tagacgtttg aaaggcgctc 240

agtatgaaag gagaaacgag tgtagcactg tctagtcgtc caactcagcg aacagcaat 300  
aactgtgaaa atgcagtaaa ctagcagtag gacggaaaga cccaataatt cttgactaga 360  
taggttttagg gaggagagag aatcatgaag tanaggaggt ggggtaagag atgaaagacc 420  
actgcatgag gataag 436

<210> 1324  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-G3  
<400> 1324

gtgggttttga aatgtggtct ttccactctc ctgcaagagt ttcaaccgt cataaaagcc 60  
aggagacttg ttttctttcc aaggacccta tggatagtga gctggaatct gttacgtttc 120  
taggaaatat taaaagacag acacgccgtg tactgagaaa aggcgctgct tctttgtttc 180  
cctatttgca gtcgtctgtt ccaaagcttc ctacgaaata tggggctttg gttgcctgtg 240  
cagtcaagtc tctcatagct gccttgtatt atatttcagt atccgttagc cttacggtgt 300  
ttaacaagtc tatttttcaa aactatgact ttcaagaaac tactgttctg gtctgtagtc 360  
aactttccct cactattctt attttgtttg ggcttcaaag aacagagcga atttcgacga 420  
g 421

<210> 1325  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-G4  
<400> 1325

cccacgcgtc cgcccacgcg tccgtgatga ctttctttc aggtatttta agagttgcat 60  
ggatgtcaca tccttatcgt ggagactcgg ccctaagcg catcgtgatt caacatctgg 120  
tgacttgtaa aaattcgagc gatattttca taggttccgt agatattcgt gatttgaaga 180  
gtgaagagag tttgattgct tcattatctt ttccatcagg tacagcggaa gatgtttctt 240  
tggcgtctca ctttcgctgg ggactattga atagtggacc ttgggagaat ctccaaccca 300

tttcttggtt cttttcaggc tatcgaatag gtcattctgt gtcattctcat gacttgcctt 360  
gtcctcgggtt ggagattatc cgcaaagtgg tgcataaaag ggatggaacg aagatgatag 420  
aaatgttggc ttcgt 435

<210> 1326  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-024-Q1-E1-G5  
  
<400> 1326

cccacgcgtc cgccacgcg tccgggtcaaa atgagatttc cacgaaccga tggatagctg 60  
ttttaagcga ctccacaatt atgattgacc tcacaaccaa catgaacggt aacaacaacg 120  
atactgatgt cgcacttggt gaatcaagct tccctcgagg ttctgtcgaa tatattatcg 180  
agagggacat cgagagaaaag ctttttaagt gggcgaatat gaatgcgaca cacagtgccc 240  
caaaaaactt cctttttcct gacccaactt ctcttggact tgcaggattc agtgctacca 300  
cgttttatatt gagtgtattc aacgcaaatt tattgccttc ttccatatca agtggcgta 360  
ttggtgcagg atttttctat ggtggagcca ctcaattgat tgctgggtctg ttgtgttttg 420  
ttactagaaa ta 432

<210> 1327  
<211> 441  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-024-Q1-E1-G6  
  
<400> 1327

ggccacgcg tccgccacg cgtccgccca cgcgtccgcg cgtttggatg tcatgggtgat 60  
gccaattta tatggcgata tactcagtga tttgtgtgct ggtctcatag gtggattagg 120  
actaactcca tcaggaaata tgggacaagg ttgtatgttg gcagaagcag ttcacggcac 180  
agcaccggat attgctggaa agaataatggc caatccaacg gctctcttat tgagtgcctt 240  
tatgatgggtt cgtgaaatga agctgtttga aaaagcagat atagtagaaa ctgcagtgt 300  
tgatgtattg agagaaggaa aggttcgtac cagagacttg ggaggaacgg caacttgtac 360



agaataaact ttggccatta tcgataaaat tcagcagcgc atttctttcc ctaataaaat 420  
atgagtcaag acgacgaaca c 441

<210> 1328  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-024-Q1-E1-G7  
  
<400> 1328

gtcatttata ccgaaaatcg agtggcacgc aacgcattgc ggtttttacc gtacttttgt 60  
gggtgtttcag gggatacgca atttgctttg actcagttgt tgtcggattc cgagtttgtg 120  
cagaatttta ttogtgaaaa taccacgcgc ctgtatgaaa cgtatagcgt tcattgtagt 180  
tgtttggaca aattgggtat ttcctatgtt cctagtgaag caggtttctt tatttggatg 240  
aatttgaacc catggatggc atctcact tgggaaagcg aacgagagct ttggcgtcgg 300  
ttgttggata aagccaaagt cgtccttaca ccaggtgaag tttgtcatag tacagagcct 360  
ggatggtttc gttgttgttt ttccgcagcg tctcgggaag ctgccaaagt ggcttggaaa 420  
cgagtgaac aatgc 435

<210> 1329  
<211> 359  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-024-Q1-E1-G8  
  
<400> 1329

aagcaagcct ccgttaagaa agaagggaaa gggaaaaaaa aaaaggttag gtttaaaacc 60  
acaaacccaa aagggaagc ttaaaccat aaagaaaaga aatccaaaaa gaaggagaaa 120  
agggtaagaa agaggaccga ttcagggtaa aagggtanagg agcaaganga gaagagagaa 180  
tgctgggtgg attaccgaaa caagagaagg gaattaaaag gtaagaaaga ggaaaggttt 240  
acaagagaag gaagtacaaa gaagagagtg taaggcggcg tcataataga aatccgaaag 300  
gagtanaaga aaagagagag aagaaagaaa agaagagaaa agccgtactg aagaccgac 359

<210> 1330  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-G9

<400> 1330

```

ccccacgcgc cgccacgcg tccgttaaact actaacttgg ttgcttagta aatttgcacg   60
ttatgaagaa gctattcaaa accccaggaa ggatgttctt ttcttaacca agacttttca  120
aagtgcgttt caccgaaagg ccatatggct tcgagaagac ttttgtggca ctgcagctat  180
atctcgtgaa tttatccgat cagactttga aagatttgct gttggagtag atatagattc  240
tgtagctata gactggtgct tcaaacaagg ttatttgagt cttccgtctg gtagtgatag  300
acttgagcta gtagtagcag actgtagaga gtatgaggat aaaagatcgt atgacgttat  360
ttctgccaac aactatagct tattctttct cacaaccgca gtggatctct tgagatattt  420
gaag                                              424
  
```

<210> 1331  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-H11

<400> 1331

```

gacaagggtca caggcgaatc cctttgttat ggctttattg agtttcccga tcgcaaatgt   60
tgtgaacaag cgttttttaa aatgaacaat tgtttgatcg atgaccgaag aataagagtt  120
gacttttcac aaagcgtggc caagttatgg aaccgagttc gtcgaggcta tcatgatcgt  180
tttgatgaga aggaatctgt tcagagtcgt ggaaaacgaa cttataacga atatgtattt  240
gatgatttgg aaaggaaagc tttatctcaa gaaaaacgtt ccccaaagca caaaaaaaag  300
tgaaatgagt gttttccttg acacaacaat atttattgca tattttaaact tccagtttct  360
tcggtatttc ccaagtaaac gtcggttcca ctttgggata tcttccgaaa tgtccgtacg  420
ctgc                                              424
  
```

<210> 1332

<211> 99  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-024-Q1-E1-H12  
  
 <400> 1332  
  
 gtccaaaaaa aaacaaaaaa gtaaaacaaa acgaataaat ataaaagaat aaaaaaatg 60  
 gaaaaacata aatcacaga aataatgtca gaaatggtt 99

<210> 1333  
 <211> 333  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-024-Q1-E1-H6  
  
 <400> 1333  
  
 agcaaagatt tgctttccaa agaaaattcc tcggaatatt gaaatcatga taaaaagtat 60  
 acgaactctg actgaaaaag tagacaaaca tagtatgccg agtaacacag gagaatggtg 120  
 gatagccaaa gagctttgaa aaccaggtg tttgcacttg tagcaaactg ctttaattcta 180  
 atgagagtcc ttttcaagag ataaggatga tgaattttgc actgtggcct taaacgaaca 240  
 cttaccteta tcttcttcgc ttttatcctg cagataagca aagggttttg cgagagaaat 300  
 tctccttttc tttgagacat gcggttaaate tgc 333

<210> 1334  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-024-Q1-E1-H7  
  
 <400> 1334  
  
 gcgtccgacc acgcgtccgc ccacgcgtcg gttgaaattg taaacggcgc caaaacaaa 60  
 aatggtttaa cggcaacaaa atttcccccc aagaaaatgt caattagcat ttttgaaccc 120  
 tgaacctgcy aatcaggcct tgcctcgagt cgtcgaagtt cttggagata tccacaattg 180  
 gagtggcagc cgacgagaag aagagttgga acagggaaga agattccttg catcattcct 240  
 tggaggaaga acagaacctt aagtgaacaa ggtcacatag ccagttgta cttttctagt 300

ctttattcct agatacccat tttcttagtg catacaaact atcaggtgta aactgtttct 360  
gtttgctatc aaaaa 375

<210> 1335  
<211> 222  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-025-Q1-E1-D10  
  
<400> 1335

gtttgtcatc tctaaattgt gtatgaggta tgttctcaac gcaatggtag ggcaaagacg 60  
ctatgtgcac tttgtgaacg tgccaactac tatgcaaac atggttctgg gagagttatt 120  
tgtcctgctt gtaatagatg gcaagtatgt gccttgtagc ctttgttatg cgactggaaa 180  
tgccattgat ttgaaatacg gtttttggga ataatgcttg ga 222

<210> 1336  
<211> 172  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-025-Q1-E1-H12  
  
<400> 1336

tccgaatcaa cttcaacaca aacgcattgt cgtttggcac cttccttctc atgtgagtat 60  
ggcaacgatt gaacagatct tctcaaggag gggggaaaca ctctttggcc acaagtgagg 120  
gggtgtgcgc caatggactg tgggtgcgaca ctgatgggca ctgttctgtt cg 172

<210> 1337  
<211> 460  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-026-Q1-E1-A1  
  
<400> 1337

cacgcgtccg ccagcgcgtc cgcccacgcg tccgacaacc atcacatgcg cggaacaaaa 60  
gcgccagaag agcacctcca caatcagctg aaccaagatg ttcttttaag agttgtgaga 120  
tttgctttgc tttttccacc agaggagaca aggagaaatg ctagctgaag agcttttttt 180

ggctgcttcg acttttacct aactcggcga tgcagtggag tctcaggtat acccaacaag 240  
gacgttgctt cacaaggacg gcgtcgagag agactcatcg tcaaagatag cagcaactga 300  
aagtctattg tgacgcttca gctgtaaaaa agtgctattg acttgcaag tttgctggct 360  
acttggaacta tcttgccgtt gttccagaga cggcacaaga ctacctttga aaatacgatt 420  
atthttgagca aggtgcgact ctagaacctt ttgtaacaat 460

<210> 1338  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-A12  
<400> 1338

cacgcgtccg ccaacgcgtc cgcaaccgga atgtggcaag ttggcaagca agtcagaaaa 60  
acaagagagg aatccagtat tcccatcggt cctttttctg caggtgtata cattgcagct 120  
atgatggctc agattgacat tttgatggaa aaggacatc cggtttcgga aattgtcaac 180  
gaatecgtca tagaatctgt agactctctc aatccatata tgcattgccag aggtgtttct 240  
tatatggtagg ataattgttc tactactgca agacttggtg cgagaaagtg ggcacctcgc 300  
tttgactata acattttctca gcaagcattt cctgtttctg acaatcaaga accgttggac 360  
atgcgcaagt tggatgaatt ctttaagtcatt cctattcatt cggcggtatt ggagtgcgca 420  
aagttacgtc 430

<210> 1339  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-026-Q1-E1-A3  
<400> 1339

gtcaggaatc agcagtctga cgatgttatt aagagattat gctccttctt gtgttcagca 60  
acaagagttg aaaaactatt ttggtanaaa gattgcagtg gatgcttcca tgaacatata 120  
tcagtttctt tctgccgtaa gggctggagc agataattta agaaacgaag caggtgaagt 180  
gaccagtcac ttgagcgggc ttttctatcg aacgacctgt ttgatggaat tgggagtttt 240

accttggttaa gtatttgatg ggaaaccacc acaactaaag agtggagaat tgagtaagcg 300  
 tatcgaggca agaagacagg cagaagcaag tgcagcattg gcgaaagagg aaggagacgt 360  
 tgaatcatat gagaaattca acagacgagt gaataaagtg tcgcccaggg ttatcgagc 419

<210> 1340  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-A4  
 <400> 1340

cttactacgt taggaggaga ttatgctcct tcttgtgttc agcaacaaga gttgaaaaac 60  
 tatttttggtta caaagattgc agtggatgct tccatgaaca tatagcagtt tctttctgcc 120  
 gtaagggctg gagcaggtaa ttttaagacac taagcagggtg aagtgaccag tcacttgagc 180  
 gggcttttct atcgaacgac ccgtttgctg gaattgggag ttttaccttg ttatgtcttt 240  
 gatgggaaac cacca 255

<210> 1341  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-A5  
 <400> 1341

gtcgatcaag aagagagatg gcgtcttcct caactgccta tttttcaagc aatggagggtg 60  
 cagaaggagg ccttgagagt acaggaagca atattgttta tgtggtagta gctgcaggta 120  
 cgaatatact tgcccagtac gccgccgaaa aggggaatta tgaagctatt gcgtcacgta 180  
 tattagccaa agttccacaa cacgacgtga agagctttta tgaaaacgat aaccttagtt 240  
 tcaactttat ggtatcta at ggaataacct atttatgtat cgcaagacga ctttaccctc 300  
 gacgactcat atttgggttt ctagatgata tcaaaaagcg ctttgtttcg caatatggtg 360  
 aaagcgcaaa gacagcagggt ccccttcata tgcagcacga gtttcgtcct attttaaagc 420  
 agca 424

<210> 1342  
 <211> 308  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-026-Q1-E1-A6  
  
 <400> 1342  
  
 ttttgattgt ttatcgtttg tcaaagtttg gttgttttct tggtagcagt tgtacattca 60  
 acatcatcaa atgccaaagg gaggaagaa agattcttca aagaaagaag ccacaagtaa 120  
 acctgcagca gcagatgcta caaagacgac agaaaagtct ggtccggaag ccaagttgaa 180  
 gggaactggt gcaaagaaac aataaaaagt tgactatgca tgtgcagtcc tgttatgttt 240  
 tgtgagttct gtttgatagt ttccagctat tcttttggtg gtgaataaag agaaaatttt 300  
 ttatatatt 308

<210> 1343  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-026-Q1-E1-A8  
  
 <400> 1343  
  
 acgcaaccgc agggatcatt ccaagttggt aaagatagac ttgtctcaag gcagctttaa 60  
 agtactccaa gactgtgaca aagatttaga atgtgatcat aataccaagt ttcagttgga 120  
 acttattcag tatggtctct tttcacctgg tttttggacg agagaaaatg ttctgctctt 180  
 ctatttggag ctcggtgcag gtgtattcat aagggaact ctctaccttt tctacaacaa 240  
 aggtgaagaa catttgtttg cgagtttaat gctgttggtg gagacacaag tctcactgta 300  
 tgcagacata aaaacaaact gggagaaacg acactttatc gttggcctca tcgtcagggtc 360  
 tttgtgtgag gaatatcaac gacagtattc agagctatgt tcaccgaatg aaagcacgan 420  
 agatatgcta ct 432

<210> 1344  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-B1

<400> 1344

attcctaccc aagtgtttcc ttggtattgc tatcgggtggg caacctgcag gaaggattgt 60  
attcgagttg ttctccgatg tcgttcctaa aaccgcggga aatttccggt gcctgtgtac 120  
ggtgaaaagg gtttgggaca aagaccaag tttataggat aattcccagt tcatgtgcca 180  
agggtggagac ttttcacccg gcaatggaac ccgtggcaag agtatttacg gcaccaagtt 240  
tgaggatgaa aacttcaagt tgaagcattc cgagcccttt ttattgtcca aggccaatgc 300  
tggaccgaat accaacggga gtcagttttt cattactgta gttaaaacac cttgggttga 360  
tgggaagcat gtggtgtttg ggaaggttt ttaaggtagc gataatctta aagctatgg 419

<210> 1345

<211> 434

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-B11

<400> 1345

aatactctat aatgacgtcg tactatcggt tgttttgtct tttcaaagct agaagactat 60  
ttatttcctg ctatgtttta gaggtccaa agattttttg tgctcatctt attccatgct 120  
tcgtgggtggg tgaatggctc ctttgacaac aggggtgtca cgaccccgcc aatctccaca 180  
acttcaactg ccaacttggt cgcgtatatg tagatatatt tgtacagatt cgtgggtgtag 240  
aaagaagagt gcaaaggtt gaaaagtaac agcagagggt tagtatacct ttagagaaag 300  
cacttgaaaa agtggtcacg tacttttaca tatctacctg taataactgt ttttgcttgt 360  
agagattaca agtttactgt acttgacaag gtttccaagt ttcattcatt gcctttaagt 420  
atgtatgatt gtac 434

<210> 1346

<211> 428

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-B2

<400> 1346



gtccgagcga ttatttacac agactcagag cggaccacaa ccagatgcac caaccaatga 60  
tactttctgaa actatatata tttcgtcact agcgttggtta aagatgctca agcaaggcag 120  
agcaggagtg cctatggaag ttatgggact catgttggtga gactttgtgg acgactatac 180  
tgtaaagggtg gtagatgtgt ttgccatgcc tcaaagtga acaggggtca gtgtggaagc 240  
agtagacca gttttccaaa caaaaatgtt ggatatgttg aaacaaactg gtcgacctga 300  
aatggtggtt ggctggtacc actctcatcc cggttttggt tgttggtttt caggagtaga 360  
tattaatata caacagagtt ttgaagcact gaatagtcgt gcagttgctg ttgttggtga 420  
ccccattc 428

<210> 1347  
<211> 276  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-B4  
<400> 1347

tctatagtgt tacatattac gaacacagct tttggtgaag tgtgtgaaac tttttgttag 60  
caaattcaaa taatcacctc tttggtttgc aagtgggtgt gttagcggtta cttgtttggt 120  
tgaaaagaac aactgctttg tttcttggtg aaacaagttt cttgtgaaaa aaaaaaaaaa 180  
aaaaaaagga, aaaaaaaaga aaaaaaacg aaaggataac aaaaggattt acacataaat 240  
acaacgtaaa agcaacataa aaactgtcac aaaaaat 276

<210> 1348  
<211> 452  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-B6  
<400> 1348

ccacgcaacc gcaaacgcgt ccggatTTTT cttgtggagt actggggttg gttggaagct 60  
atctttgagt gatcattatg agcaagaaga taggtaaggg aggaatagag agtgcacata 120  
tctaggtaaa ggatactgtc tacagtcatt gaacaagcta gaattagtaa cagtggaaag 180  
ccagaagagt agcaacagca gtcattctat gtcttttcct aaaggcacct ctgcaatctt 240

gttttcccta gggcaacttg gcagttggag acaaggcgag aatcttctgc agagatagca 300  
 gtgcaacttg tatagcaaga gtgacttggt cgccaataat aatactgagc gcgcgtgaca 360  
 ctactgtcat tgtgagtcac tcagttgcaa aaaccacgtg acaaggatgat tctttgaaac 420  
 gaataaaagg ttcaagttac ctgttcttta ca 452

<210> 1349  
 <211> 448  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-B8  
 <400> 1349

ccacgcaccc gcaaacgaat atacctacaa cgctctcata aagggttatg cgagagcagg 60  
 caacgtgcaa agtgcagtcc aaatttccaa tcagatgcac agcgaaggaa tcgtccctcg 120  
 tgctataact tatagcgtgt tgatcgattc tctaggaaaa tgtaagatgt tggatgaggc 180  
 gtttgctttc ttcgaggaaa tgcaagtcaa aggtatttca cccaatggga tcacttttaa 240  
 tgttttgtta tcggcttggt ctgcttgcaa cgattatacg agagcattga tgatcgtaga 300  
 gtggatggaa caacgaggaa tggactttga ccgatacaca tttaatgctt tgatacaatc 360  
 tgcagtgaac agttaaaatt atgaagaggc tttgagatgg tatgaaaaga tgattcattc 420  
 cctcgtcgtt tcaagtaatg tgactttt 448

<210> 1350  
 <211> 313  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-B9  
 <400> 1350

aatcctctag agtgaatcat atcatcgga ctattgcacc tatgacagaa gtatggtcta 60  
 cgaaaattct tgaatatcag caactgggtg ctatctactg ataaggggat acttgaacat 120  
 gttctcttgc atcacttctg gcccctgag gtacctggag aagcttctac agacatagaa 180  
 tctgcttggg tttctgaata tatagtacaa agtaaatttc gcgaccttct acagctcaaa 240  
 aaaaaaaaaa aaaaaaaaaa aaaaaaacaa aaaaaaaaaa aaactaaaac aaaacaaact 300

gtataataac ttt

313

<210> 1351

<211> 442

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-C1

<400> 1351

gtccgcaaac gcgaccgccc acgcgtccgg ggacccttgt cctgaagaaa cgcaatggct 60

cattgaagag cgtcaaaaag gggagagAAC caatttcttt tcctagacaa ccacaaaaag 120

gttttggtca gaactgtata tttgaaagta aaatattacg attgtaaact acaagggaaa 180

gatgacattc agagtaatgc tagaatgagt gagaagatat gtatcagcat ggagaatctc 240

tttgtggcaa tagtgctcat catatatata tatatatata tatatatata tatatatata 300

gagagagaga aagtatagaa atcattctac ataccgtgtt ttcatttttt tacatgctct 360

tgatcttttc tacatattct tccgcaatat tttgaagttg tcgatttttt gacaccgagg 420

gcaacaagac ttgcaacata aa 442

<210> 1352

<211> 57

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-C10

<400> 1352

caattctcta tactgacgtc agtattataa aaaccaacca acccttgctt ggatggt 57

<210> 1353

<211> 239

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-C11

<400> 1353

acgcgtccgg acgggtgtaa caaatattgt atggataaac gggattatat gggatgctgt 60

agtttggtaa caatacctga agagtggccg ttgttgaggt ggaacgcgga aaatattccc 120

cgactgagta gttgagactg gcagcaaagg aacgtgtagt acttgggtag aacacaaggt 180  
 ttcggttaag caacttttgt tctagttgaa atacaaatgt atgtatccac aactcatta 239

<210> 1354  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-C12  
 <400> 1354

cacgcgtccg aaaaaacgtg ggcggacgcg tgggtggtaa gctgctgagc gtcaagtagt 60  
 agaattgctg tttattcatg gacgtaaagg ttcctttgct ttttcttcct agtgatttgt 120  
 tttttgacgc gatggctcca tgtctaggag ccataggagg actttatgaa catagtgggt 180  
 acaatttttt cccctttttc gaagctctgt caactgtacg tgtgaatagg attgaacgtt 240  
 ttgtttgttt tgttgctac atatgtatca ggttgacat actatgcaat catgtgcgtt 300  
 ataattgtag ctatagtgat ggcgtacgtc caacgaattt aatggataat gcattgcaaa 360  
 cgacctatta caattatggc tacaagtaat ttgaataatt tcatttgaca gatacataat 420  
 tg 422

<210> 1355  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-C2  
 <400> 1355

ccgtccgcaa gcacaaatag ctgtagaaag tatgttggga agaacaaacc acactttccg 60  
 tgggtgttcaa ggtacctttg tttgtggtgc atttggeatg gttgttgctg ctactggcgc 120  
 atcggagaag aagttacaga aaagaggctg gaaacaagga cgtgaatatg aagccgcagt 180  
 tatccacgct ggatcacatg ctgggttatta cccaattca aaaacggtac atctaaagtt 240  
 gctctttgac ttgaagactg gaaagatttt gggagcacia gctgttggtg aagatgggtg 300  
 ggacaagcgc attgattgta ttgctatggc attacaagct ggtatgactg tgctggactt 360  
 ggaggaagca gagctttgtt atgctcctca atttggttcg gcaaaggacc ctgtcaatct 420

tgccggtatg gtccctgcaa aatatt

446

<210> 1356

<211> 281

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-C4

<400> 1356

tccgagaggg gagacaagac cgatagatga tgatgatgcg ccgagtagag acgtgacttg 60

gttggttcag atcgtttgga acaatagaat cttgtagaat ttttggtttt tttggtggtt 120

tatgtgctgt ttttgacta aagtgtctgt actgaatata tgctgttgac atgaagtttg 180

ggaaaaagtt acaagacgca ttggaacctg caaacatoga ttggaagccg tactttatac 240

actacaaggg ttaacaagg ttaattgcta cgagtgtggt g 281

<210> 1357

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-C5

<400> 1357

tgccaacgcy tccgcgacg cgtgggtttg gtgtgggaat tccttctgt cctatatatta 60

cacagtttca gcaggtacaa ccagagaagt ttgtagcttc atttccagca aagttacttg 120

gttctccttt tttcttcttc cttttaccag gagcttcact tcctgcaaact actgtcgcat 180

cgttgtacta tagtcttccg ccttatgaaa actgggtcttt tattgggtctg gtaggaaacg 240

attgtcccag taaactgtgc actgtaaagt taccagctca gtcggcatca gaagaagtta 300

tggttgagtt gggatatttc attgaaagta tgcagaagc ggctttggct gttccaacca 360

gtccaacat agtttttagat cagtcagatt ctcagcttct tgttcgaggt atcgctactg 420

acttttttcg 430

<210> 1358

<211> 439

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-C8

<400> 1358

acacgcaacc gtagtccgtc atagaaaaaa gtgtgcacaa catcaacttt catagcagca 60  
atgtcacctg tttagcgttg aaagataaag gtccactcgt ggcaacttgt tcggaagaca 120  
agtccgtagc gttgtgggac cttcgagtca cggccccgct gcagagcttg aagtgtcttc 180  
acccccctgag ttgtgtatct tatggaagag atgactcaga aatcataaca tcagactata 240  
gtgggttcggc aaggatatgg aatattgaaa caaatcgaca aattggtcgt ttacagactc 300  
gcgactcttc tattctcaca ggttttcttc acgatacagc ccgctcacta tttattatgt 360  
ttggaagctc tggatacgta aacatcagtc cactaaactc caaacgggga acaggagagc 420  
gttaacttcg acttaaata 439

<210> 1359

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-026-Q1-E1-D1

<400> 1359

gtccgcaaac gcaaccggtc gtttgaatct cgatgtggtc gacgactttg aaagtcttga 60  
taatggagggt gatagttttt gtgcctgat gcagttggag acattctggg tattttcctg 120  
aggcgatatt tctttcctcg tttgcttgaa gaactacaac atttcaaggc aagatagatt 180  
tgtggaatag tgaagtgttg ggcaagaaaa ggaagtatta gtcttcccga aatggacctc 240  
aactgcctaa gacatatgat tacttgccct gcattgtaat gctttacatc gaggttgctg 300  
anaagaaata tacacttact ttcacaattg ctcatanagg gtttcaacat gagcagtttc 360  
ttgtggtctg tccagttgag tactgtatgg catg 394

<210> 1360

<211> 294

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-026-Q1-E1-D12

<400> 1360

cacgcgtccg gattgttggt tgtcatctcc aaactgtgta ngaggatatgt tctcaatgca 60

atggcacggg aaagacgcta tgtgcacttt gtgaagggtgc caactactat gcaaaagatg 120

gttctggcag agttatttgt cctgcttgta atgatgccaa atatgtgcc tgtcactttt 180

gttatgcgac tggaaaggcc attgagttga aagacggttg gtgggaagaa ggcttggagc 240

agcaagtaag gaaaaataa ctgggataga aaataaaact tggcattttc aacg 294

<210> 1361

<211> 433

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-026-Q1-E1-D2

<400> 1361

tggtagaaga agtacaaagc aagcagtgca tcaagtatgt atctcttcag aagatcaagt 60

acgagtcatg ctctgccccaa tatgaagttc aaaagatcaa acagcaacaa tgtactatga 120

cagtctctga acaatacata cagccggata cttgctacaa gtatgttcct gaacaacaat 180

tggtgcctca gacttggtac aagtattatt ctgtacccaa gtttattgaa aagtgtctatc 240

ctcagtatgc aacaacggag aaatgtgtan agtatgagta tgttccatat gccacttcta 300

caccttatcc atcggtatct ccaagttata ctccttcagc atatcaaaca acttctgctt 360

attaaagagc cgaagactgg atagattttt gaagtgtctc gtgttcaaag aaaacatgag 420

acatgaagaa aac 433

<210> 1362

<211> 460

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-D4

<400> 1362

cgtcgcgaaa cgcaaccgac tcgtcattgg aatagagaca gatgaaacca ttatctgtat 60

ttacttttcg atattcgaca ctctgttcta actttcgtcc aaataaagag tcaagtgcga 120

acgctcaagt tatgaaacag ctcatcgga acctgagaga aaaagtggaa gaaatagcca 180

aaggaggtgg agaaaaggct ataaggagac acgaagaaag aggaaagttg tttgtacgcg 240  
atcgcatcca aaaactgttg gatccactt ctccctttt ggaactttct ccattggcag 300  
cttatcaagt atatgatagt ccagttcttg ctgctggatt ggtaactgga attgggtctgg 360  
tacatggcaa gaaagtaatg gttatagcca acgatgcaac taacaaaggt ggaacttttt 420  
ttccgttaac ggtgaagaaa tatttgagag cacaaagtat 460

<210> 1363  
<211> 455  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-D5

<400> 1363

acacgcatcc gtagtcacgc tccgaattgt gcgtgttggg tgggtggtagt agagacgcat 60  
tcgatgactt gtgggttttgt ttgtggagct ctacattctt ggagttttgc agtgcacaat 120  
agacaaagaa aagtttccgt atgtaaaagt caaactacga cgttccctatc tggatcaaag 180  
caggtccacc tgcgagcgaa tattttccag aagacaagta ctccaaaagg ggaaagagga 240  
agcttggtga tgattatttc caacggatca aggttccctg aggatgttac ttttacaacc 300  
ttgcaagatg gtcaagtaaa ggaaatgaaa gcttcagaaa ttttcaacgg gaagaaagta 360  
gttatatttg gtgttccagg agcctttact ctttcttggc cgcacaagca tctcccgggg 420  
tttgcagaaa atctcgagaa gttcacggaa aacgg 455

<210> 1364  
<211> 454  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-D7

<400> 1364

acaagcatct acaaacacgt tctggaaaaa cgatgcctgg gattattgaa gcgatatgtg 60  
gaggacttgc cattggcttt tccgtcgcgg caaatgctgt tttgctcgga agagtaactg 120  
gtattagtggt catcgttggg ggtatccttg cgaaacagtc aggttttggg tggagactat 180  
cttttcttgg aggacttgca ggaggtggtt gggatattaag gaagtttttg ccgagtacgg 240



ttcctatcgt atctggactt gtgtctcccc tcagattggc tcttgctggt gctttggttg 300  
gctttggcac tcgattagga agtgggtgca ctagtggcca tgggtgtatgt ggactaggac 360  
ggatgtcaaa gaggtctctc gtgaatgtgc tagtgtttat gaccagtggg gcgctaacag 420  
caattcttac gaaaagtgtt agtgcatatg gaggc 454

<210> 1365  
<211> 355  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-E1

<400> 1365

tccgcaaacg caaccgcgga cgcgtgggtg cgtttgtggg tcgtgttgtg aagctcaaac 60  
aactattgcc tagatgggtc acgcaaatat ttggtatagt catcctcgaa attatggaaa 120  
aggaagtcgt cagtgtcgag tctgttttgc gagatctggt cttataagaa aatacggttt 180  
aaacatttgt agaagatgtt tccgcgaaca agccaaatac attggattcg aaaagtttca 240  
gtgagaagag cgaacaagaa tgcaaaagct tcttttctgt aagaaatgtc tcgttagtat 300  
tcctcttctg agaacgttgg gcagacaata aaaatatattt caacttttgt ttac 355

<210> 1366  
<211> 312  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-E10

<400> 1366

ggggggtggt tttttttttg ttttttgttg tggtttgttt ttttttcttt tttttttttt 60  
ttttgtttgt tgtgtttctt ttttcttttt ttcttttttt tttttttggt tttttttctt 120  
ttttttttgt ttttgttttt tttttttttt gtgtttttgt tttttttttc tttgttgttt 180  
tttttttttt tttcttttgt ttttttttgt tctctttttg tttttttgtg tttttctttg 240  
tttttggttt ttctttgttt ttgtttcttt ttttttttgt ttcttttttt ttttctttctg 300  
tgtctttttt tt 312

<210> 1367  
 <211> 190  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-026-Q1-E1-E2  
  
 <400> 1367  
  
 taaaaaataa aaaaaaaaaa aaaaaaaaaa aaaaaggaaa aaaaaaaaaa aagattaaaa 60  
 ggataaaaaa aaaaaattgg aaaaaataaa aaaaaaaaaat atggggggagg gggattagaa 120  
 gtgtggagta ctgttttggg aggtggggta ttgtaaaaaa gtgggggtta ttcaattgga 180  
 gaggatgttt 190

<210> 1368  
 <211> 317  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-026-Q1-E1-E4  
  
 <400> 1368  
  
 ctctagaatg agacgcatca agaaacaacg gagagttagt aaacgttgat aaaagtattg 60  
 aaaaagcgta ttgaacatat gggaagcagt ttacaatgg atgaactggt gaatggcaaa 120  
 aacaccaaaa cagtattaaa agagaaactt aagggtgcaa cagatctgac ggaaaatagt 180  
 cagaaaaata agtcttcaag ctcaagagct tcttggaag agtctttgcg gagtgcgaat 240  
 agaagagaca actggaatgt tcgacttcgt agtttggaag cgcagcttta tgcacttttt 300  
 gtattttgttt tgttaat 317

<210> 1369  
 <211> 451  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-026-Q1-E1-E5  
  
 <400> 1369  
  
 acacgcatct gcagacactt ctggcaagcg tgaaccgtga gggtagttca tcatgggtga 60  
 gacaaaactt caagatggtg ttagtgcttc tctttggact gttcgtctct tcctctacac 120  
 agttatttta gcattctctg ccactatcat tggcttggat ggacgtaaag cagacaacat 180

atggaacgac agcttattct atgatgggaa gtacattaac ttttgtgctt attctgcctc 240  
 ttctgttgta gaaggagggg accatggagc gtgtaaata gtcattggcg tggcgctctat 300  
 aagtttgatt ctagtctttt tcttgtggct ttttacattt gtagatgcgt tgtatcctat 360  
 tcttaccaag ttttggttta ttgaattggg tatcaacgtg tttcaaaca tgtgggtgggt 420  
 gggtggagca attgttgat ctgcaaaaag g 451

<210> 1370  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-E6

<400> 1370

ccacgcattc ggagattgca aataggccaa agtgtgttgt tgctgtgtac gagggttggt 60  
 catttggtga gctgaagagt caatgaaca gcttcagttg ctatacgtaa ccaacaagc 120  
 tgtttcaaaa gcatggcaaa gagaacagaa aagggtatac tccgagaaga aatcagttgc 180  
 agaaggaact ttgggaagca ggtggaagga aagagaaact gcacaagaga gcgcgtactt 240  
 taatcgtgaa gatgagcagg cagtacaaag gttagcagcg aaacttcggc agcaaattga 300  
 gccatcggag gaagtactcg cccaacaaag aaaaggcgtg gcagaaatct taaaaagca 360  
 cgggtgtccag cctaatacaa gtttgattga agatattgtc cgtttctttc attaatcct 420  
 ccgtgtttga tgtttactgc ggttcaacta gagttttgtt tggg 464

<210> 1371  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-E8

<400> 1371

acaagcatct acagtgactc gtgggtatatt gagatcacac aaacacttgt aactgaatg 60  
 aacgacgtat ggttactaac tgtgcatttt gtatagatat caaggatgtc aaatatgtta 120  
 tcaactacga tttcccgaat actatagaag actatgttca tcgcattggg cgcactgggc 180  
 gtgctgggtc ccttgaaag tcccatagc ttttcaactc ggataaatc cgtgttgcca 240

aagaattagt taacttgttg cgagatgctg gacaggacat tcctcccgag ttggctcggt 300  
 tgataaaaac ttcgtccttt ggcggttaaca acagaaactt ttctcgttat cgaagttaca 360  
 attctcgggg cggtcattt tcaaataatg gacgttatgg ctacgggaat catagcaata 420  
 atttcggaag gagccgatag cttctaataa aaat 454

<210> 1372  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-F1  
 <400> 1372

tccggaaaaa ttataggaac gataggatgt ggagttgcat gttttcggga tggcgacttt 60  
 acgagttggt gctttcatca accgtcaggt acgacattga atggagatat attgtatata 120  
 gcagataccg aaaatggatg tttgcgaatg gtggatatag aaagcgggtca agttgagacg 180  
 atctttcctg aatcttgtcg agttgactgt aataataata acatgactcg agcactagaa 240  
 ttttcgata tttggagaac tccttgaaa cgtccaaaaa aagggatcct attgtatccg 300  
 ccaactttgg acgaccctt tctgttggtg tcaaggataa agtatattct gtcctggcta 360  
 tagctgatga cgatatgggt ccaaaaaaga gtttgacacag taaaaaactt agcagcctaa 420  
 aacctactat 430

<210> 1373  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-F11  
 <400> 1373

acgcgtccga atctttgttg agttgtcgtc gtcgacgtat tcagaaagaa ccaaataggc 60  
 acacgactta caagaggact atcgatattt ctgccacctc aaaccatgaa actagtgact 120  
 cacaaattcc ccgagtaccg aacgttgcac cgagtgagaa aacttggaac ccgcagtggt 180  
 tgaggacagt tgctcctgaa agcgttcata ctcgttatgg agaactaaaa gatactgtaa 240  
 aaaagcttgg tttgcataca gtttgtgaag aagcgcaatg tccgaacatt ggtgagtgtt 300

ggaatggtgg cacagctacc gttatgttgt taggggatac atgcactcgt ggttgtcgtt 360  
 tttgtgctgt gaaaaccaac aacaaacctc ctctccccga tc 402

<210> 1374  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-F12

<400> 1374

tacaagactc tagactgagt catattatga ggcgagaaag cataggaagt gatgaaatgc 60  
 agagatctct agagaaaggc aagaaagaaa agaaaggaag acacagtaaa tgaggcgaga 120  
 aagcatagga agtgaaacgg attacgaacc cgtgtagtct atgcagtaaa agaaagaatg 180  
 agtaagaaaa aaggggagtca ttccaccagg ggagtaaagg cgcaagaaag aaacccaaag 240  
 caattgacgg gaatcggaag aaggggtgga tcacgtaaat taatccgata aaccgagAAC 300  
 cttacctctc caagaagggtg ttgcacggct gtcgaaagaa cgtgctgtga agtgagagaa 360  
 cgtacgagaa agccaagtta gg 382

<210> 1375  
 <211> 461  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-F2

<400> 1375

cgtccgcaga cgcattggcg gacgcgtggg cgtgtgtagc aagcgtagag cagaagaact 60  
 ggggtgtaaag gtcgagtagt agagtaagtg taaaagggaa aggaaaggag agaaagagga 120  
 aagggatgaa atgcagagat ctctagagaa aggcaagaaa gaaaagaaag gaagacacag 180  
 taaatgaggg gagaaagcat aggaagtgaa acggattagg aaccctgtga gtctatgcag 240  
 taaaagaaag aatgagtaag aaaaaaggga gtcattccac caggggagta aaggcgcaag 300  
 aaagaaaccc aaagcaattg acgggaatcg gaaaaaaggg tggatcacgt aaattaatcc 360  
 gataaaccca gaaccttacc tctcaaagaa ggtgttgac ggctgtcgaa agaacgtgct 420  
 gtgaagtgag agaacgtacg agaaagccaa gtgaggaaaa g 461

<210> 1376  
 <211> 451  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-F4

<400> 1376

gtccgtaggt acaggttaca ataatgaagt atccaatcat tttgtagata agcagaactg 60  
 ggtaatcgat accagaaaaa aggtttcttc ttcgtcatct actccttcgc atgatatgaa 120  
 ttactccaac tccgatcaag agggctctcg tatcggccgg aactgccaac ttgtagtttg 180  
 ctcgatagaa aacttggaag agttcttggg taaagaaatt tatgaccaa tccagaaagc 240  
 tcgctgctcg gagagggaaa actttttgac caatgtgact cctctatcca gtctgatagg 300  
 aacgttggtc gaacatggat gggcacgcgg tagatctgcg gaacctgaag cgtatctcga 360  
 aaagtctatt gagaagaata ttggtgcgaa tagagtagat tcgactggca aatcttcttc 420  
 ttctgttgtc cagtgcgaca aggccagttt g 451

<210> 1377  
 <211> 231  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-F5

<400> 1377

tacaagcatc tacagacact cgtgctaacg cgtgggtatg cactcgctcg gaacggttat 60  
 ttgttttggtg tggtgttaga tactttgatg taaaatagtt gacaagggtt tattgcaaaa 120  
 aggttgaata gtaactcggt ctatatggtt cggttgagtat tgtctagaga caagtgggac 180  
 aattagtatc cacctttatc ttcgcatata cataaatata tttatttatt t 231

<210> 1378  
 <211> 459  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-F6

<400> 1378

cccacgcac cgcagacgcg tgggcgagc cgtgggatct tttcgtcgtc ttctcgggtg 60  
 gcgacattct ttggtggctt gtttttgatt ctcttgtcta tttatgggtc catgtcatcg 120  
 tatatggcta ttggtgacta tgggtgggtat tatggcgact ttttcttcca gccaaagaca 180  
 gattctcccg tgtataccgg tatttatcca tttatgaata atccagattg tatattggga 240  
 catttatgga tgtatggaat ggcttggatg ggacgcaatt gggagacatt ttgggttgcc 300  
 ttgttatctc aagccttcaa tgtattatct ttacatgtgg tggagtcacc tcatatcagt 360  
 cgttgttatt cgaaacgaag acaagcggca gcattggaac tctcttttcg tagaggagca 420  
 gccaaagtag tgtctgctcc tctcgtgcaa catttgacc 459

<210> 1379  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-F8  
 <400> 1379

tccaagcggg ccgccaaaaa gtttgtgttt atcgtccgaa aatgtggata tgacgaggca 60  
 aaattttcag agtttaaggt tcaaacgtg gttggtacta gtgctgtgaa ctttccctata 120  
 cgtttggag cacttgccta agcacatata aagttttgta catatgaacc agaattgttt 180  
 ccaggcctgg tctatcgat gatggaaccc aagattgtct tattaatttt cgtttctgga 240  
 aagttggtac taactggtgg gaaaacaaga aaacaaatag atgaagctct agagaaaatc 300  
 aaagacgttc tcgttgctt taaaaagaag taaatacaga gacagtctcc attgtttact 360  
 ttgcaactta aatataaagg gcgcgcattt tttcaaataa aaa 403

<210> 1380  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-G1  
 <400> 1380

ccgaaagatc aagcttccaa gatgatagaa agagaagttg ttgtggataa ggacgaaggc 60  
 gttcgttttag gagttaccat gtcttcattg gcaaagttaa aaccagtctt cagaaaggaa 120

ggcgccacca cagcaggaaa tgcctcgcaa ataagtgatg gagcagctgc tgtcttgcta 180  
atgaaacggt cggaagcaca gaaaagagga cttggctgtc tgggtactct tcgagctttt 240  
gctggcggtg gagtgaacc aggtgtcatg ggaattggtc ctgctgttgg caatccccga 300  
ttattgaaaa agccaagatt g 321

<210> 1381  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-G10  
<400> 1381

acaagcctct acacagactt ctgggataga ccatggatag aggagtggct tttatttcta 60  
tactttctaa agggcttctt tatagaaaat tttggaaaag aatttatcat gctcatagtc 120  
ataaaaacttg tttctactat tgtgtattat ccaacctttc catggttgct tccaagaaca 180  
attcggcagg ttcccgtaag aaaaagagca aaaggcggtg gaaacaaaga gagttggcga 240  
gtggcgaaga tacgaagaaa accagatttt cagtacagtg ggccaatatt catttgtcac 300  
ctgaggaaat aggtaaaaaa tatgtgatca cgcagacagg agacttggaa gatggggagg 360  
atttacgaca gtctcaagag tggaaggact ttatttccac cttggacttt aaac 414

<210> 1382  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-G11  
<400> 1382

acgcgtccgg acagagacat gaaaaagaaa tgagtggagt agtacaagga gcgaagatga 60  
tgaggagcagg aatggcaacg ataggttttag caggagtagg agcaggagtg ggaatagtat 120  
ttggaagttt ggtgaatgca tatgcaagga acccagtatt gaagcagcag ttatttggat 180  
acacgatatt agggtttgcg ttaacagagg cagtaggact gtttgcattg atgatgagtt 240  
ttttgatact gttttcatag tataggagaa acaagaagta gaagagaaat aaaagagaca 300  
gaagaggagt tatgagagaa aagatggaag taatagaagt ggtaagtgga gtaataatga 360



atcatatgaa agaaggaatg gagaatataa ggaaggatta catgaaggag gagataataa 420  
gagaaatgat aa 432

<210> 1383  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-026-Q1-E1-G12

<400> 1383

ccacgcgtcc ggagaatatg aggaggagtg gctgtctctt tgcctctcca aagggacttt 60  
attggaaaag agtcttctct acagaatatg attatacagg aggaactgga agagaatcca 120  
caggattgtc ggcttccgaa caagaagcaa gagagaaagt aatacgtttg tatcgatatg 180  
cgctaagtag tgtcaaagat attcgcaaac actatcgttt aaatgaaagc anagaagata 240  
tagctgcttg tattcgagat ttatttgaaa ggcatagaca tgttcaagat cganagctta 300  
ttgatatgtt ggtgttcaag ggacgacagg acatagacga agttcgcgcc cagtggaaaag 360  
gtcgtcatca ggttctcaac ctattaagag catttggaaga aaagaaaatt aaagaaaagag 420  
cgcagcttgt tgatgaacaa ca 442

<210> 1384  
<211> 368  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-026-Q1-E1-G2

<400> 1384

gggttggtgt tttttttttt tttttttttt tttggtttgt ggtgtttttt ttgttgtttt 60  
tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt ttttttgttt 120  
ttttgttttg tttttttttt tttttttttt tttgtttttt tttgtttttt tttttttttt 180  
tttgttttgt ttttttgttt tgttttgttt tttttttttt tgttttgttt ttttttgttt 240  
ttnttttttg ttttttggtt tttttttttt gttgttttgt gttttttttt tttttttttt 300  
tttttgtttg tgtttttttt tgttttgttt tgttttttgt gttttttttt tttgtttttt 360

tttttttt

368

<210> 1385  
<211> 291  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-026-Q1-E1-G4  
  
<400> 1385

ctctatagag acacttaata ggagctcaaa agacagcagt ctttgggtcg gcaaggagtt 60  
ggtcacgatg catgctttga cgggtacttg ctttattact gagaaataaa aactgactat 120  
cctttcatag gggtcacgag cgggctcgaa agttgctgaa ggaatcctcg atgttcagtt 180  
ttatacccaa ccagcaccag aagcttcatg gaaggttctg taagaaaact agttcgagat 240  
agctatagga tggaagcttt aataaaaagc cagaatctga ttcaatattt t 291

<210> 1386  
<211> 447  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-026-Q1-E1-G5  
  
<400> 1386

cccacgcatt cggagccatt caggaacgat atgagcagga gttaagaaga tgggaggaag 60  
tgataagaag aaaggaatga ggattcaagt agagcaatag aaggaaggaa aagaaggaag 120  
aaagagaaat aaaggatggt agagaaaaga ccaagagtaa gaaaaggagg ttcaacaggc 180  
atagcaccaa tccaggtgag aaggaagaag gaagcaagga aaaggaagta aaagaatcgg 240  
aagagaggtc taaagagaga actacgagaa gagaagctgt gtatccaagg aagaagagca 300  
agtacagcaa tagaggaaat catgacaagg acaccagcga gtataaagga ataagatct 360  
taatagggat aggagtatca gtggtaatag gaggaagaag atggctaaaa gaaggagtaa 420  
aagaatggat aaagagtaag gaaaaga 447

<210> 1387  
<211> 436  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-G6

<400> 1387

atggaagcta ctcgacagtt ggtagaaaaa ctaaagagag ctattatttt acaagaagat 60  
acaagctatt cggattcagg agatcaacaa cagtttgcca agtctgctag tatagatagc 120  
aatagtcatg aacatcgaag ttggaatagt gatggatcat ttaccgaagc aatggaagcc 180  
aaatatagca gaatagcggg gtttacggaa tattatccac tcaaacacga agactttgat 240  
gtcaattcta aaacttacaa gattttttcat attcacgagt acaattggtc ggatcacgga 300  
tatgctttga tcaatgcgtt ttatgaagat ggagaattgg cttctttatt ggataagcag 360  
tttgacatta ttaccactt gacagataac agtataggaa tgaatgctaa tgtagatact 420  
tctatctttc gtagag 436

<210> 1388

<211> 440

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-026-Q1-E1-G7

<400> 1388

cccacgcata cgcattttcc aagcaagtct tttgtttgcc atcaagtttt ttgggcaaata 60  
attcttattt caaaaacgaa atatgaacat acagcaaacc attccctgtg tctccatcat 120  
agtggatacg tgttgtccca gtatgctacg tcttgtgcgg tctcgtgcga cttgcgacat 180  
tgcacgctct gtggactgtc caatttcaat tcgttggctg ttaatagggtg atctctgttt 240  
gtacgctttc aaatgcatag ctgaaagatt ggccaaacgg aaaacaaagt cttccagttg 300  
gttggcgcca gttgcccagag agttgcgtga atgttttcaa tctcgacaac tacctaacca 360  
aacacaactg gaacagtatc cttgtcaaca ttcttctata ttgtggaaac tggccantan 420  
attatgaccc catgtttact 440

<210> 1389

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-G8

<400> 1389

cggggccacc cacgagtccg aatggatact tttttaatat ttgactccac cagtcaacga 60  
ttcgggtgtcg ctgctgaaca cgtttatgac gtaaaccgaga ataccaagtt gcgttttgggt 120  
gggaaagttc gtcacggaga atcggacccg gcaggatatg tcattgccga atatgacttt 180  
acggttttcca aagaagatgt tccgataaac gttcgtgcac gtgcgatatg taaaagtaac 240  
cagtgcacgc gcgatattcg tgccaaaaag aagtttgaag tggacgaaga cacttcttta 300  
ttcttcttag ccaaagcttg tactcaggaa ctaacaaaag gaagttatat tatttggttaa 360  
gctggagtga cacgtgactt tcgtttgggt gaagacactt ttcggttggg tgcggtgtgt 420  
gaccaagatg gaaactgtcg aggtgcttta agaaat 456

<210> 1390

<211> 429

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-G9

<400> 1390

cacgcgtccg gaagcatttc tgtaacattt ttcttttctt caaaaaaca gcgggacggc 60  
ttcctatggg gcatttgaat ggcattgtat atatgaaaca gaaacaagcc ggggtcaaaag 120  
gtgaagagtt ggaacgcata caactctttc gcatgagcac ctggcaaaga acaaatggtg 180  
tccatttagc aaagtattga cttgacctta ctttgccagt caacaccaa caagcgttgc 240  
ttctagaaga gcccgcaat ttttgaattt aaaatgaggg tccacatgag aaatgccaac 300  
ctcccccttg ccattgtgat tgttcgtatt gttgttgag gtgatagtga ttactccaaa 360  
gtgtgggttag atgataactc ctagaaaaag aaagcaatct gaacgtgaag aaacacatgt 420  
tgacaacgc 429

<210> 1391

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-H1

<400> 1391

gtccgcaaac gcaaccgcaa cccgaatgtg gcaagttggc aagcaagtca gaaaaacaag 60  
agaggaatcc agtattccca tcgttccttt ttctgcaggt gtatacattg cagctatgat 120  
ggctcagatt gacattttga tggaaaaggg acatccggtt tcggaaattg tcaacgaatc 180  
cgtcatagaa tctgtagact ctctcaatcc atatatgcat gccagagggtg tttcttatat 240  
gggtggataat tgttctacta ctgcaagact tgggtgcgaga aagtgggcac ctgcgtttga 300  
ctataacatt tctcagcaag catttcctgt tcttgacaat caagaaccgt tggacatgcg 360  
caagttggat gaattcttaa gtcacacctat tcattcggcg gtattgga 408

<210> 1392

<211> 441

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-H10

<400> 1392

cacgcgtccg cagacgcgtg gggttgaatg aaagcaacca cagctttcct atgttgtctc 60  
cagaagagtc actagttgaa ccaagtgata tccactacag gaacagagcc ttgacagca 120  
cttcagaagt gtgtgattta cctccagctg tgagagcaac tgtggagctt ttggatattt 180  
taatgcatcc aatttttgat gattttatttg aaggttggtt acaagaggca ctgattaaag 240  
gagaagagtt gttcgaaaag tgttacgata aggaggaaga aggaattatc acaccttaca 300  
ctatttgttc acagtcgcgt atagtttttc cccgacttgg ctattcgcgt ctcaaataga 360  
ttgaagttgt ttggaaactt gtttgttttc gttttgaatg tataaataat ttgttgtcct 420  
aacaaggcat cttatcgca t 441

<210> 1393

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-H11

<400> 1393

ccacgcgtcc gaattgtttc gacaatatgt cagactcgga taggacccaa caaaaagaac 60

aagcttgctc ctcggaagag aggaaaccac gaaagaaacg tgctcctcca ggagaatttg 120  
ataggcaagt agaggcagtt cgtaaagaaa tgcaagcaat caaagagtca ctggaagaaa 180  
cggagaggaa acttcaagag gcagagaggc ttcgtaattt acatgggtca gagtccaaag 240  
aagaagaagg tgacgcgcaa cagacaggca cttcttcaga acagttgaaa cgttgaccgt 300  
tgctagtgtg gtttttttgg caaagtcaga agagacacga atcttgtctt ttcataagcg 360  
gattgactct cggcttacat agtataaggt tttggaaact gtgttt 406

<210> 1394  
<211> 342  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-H12  
<400> 1394

cacgcgtccg caaccacgc agaaagatga agcaagggtga tccgaagcaa cttcaaaaca 60  
aacgcattgt cgtttgaac cttccttctc acgtgagatg gcaagagttg aaagatcttt 120  
tcaaggaatc gggaaatatt ctttgacag aagtgaagaa tgtgcgaaca aaggatggtg 180  
gtgagacagt gatgggcact gttctgttcg aatccgagga ggacgcaagg agagctgtgg 240  
agcgtatgag aggaagaaac tttttaggta gaattatcga ttgtcgattt gatagtcttc 300  
gttgaatagt tgtagtaaaa tatagaaaga aatgcttttc ct 342

<210> 1395  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-H4  
<400> 1395

ttgtatatcg tgtgaagctc gacagcgtct ctacacaaac acgcaagggt tcttggcggg 60  
aaatacttgc gactactagg gtcgttactt taaagagaaa tgtgagagca ctggtcaagt 120  
tttagtggac ttgtgagggg attgcttatg atagccaacc tgtgggtgtca gttgtttatc 180  
tggcgttaca ggaagacgtg tgacaggaga gctttccttt atcagacaag gcagttgtac 240  
cgatcaaaca cttgtgacaa cctgactcga ttttactgat agatattccg ttcggttgtt 300

tttgtactgc tCGTcaagtc ctgaacagag ctggttttta gattttgatg ataaacagga 360  
cgacttttctt ggttttttgaa gtaacttttc cgtctccaaa gctg 404

<210> 1396  
<211> 443  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-026-Q1-E1-H8  
  
<400> 1396

cggaagtcca atgcacaaga gcgcccactt gtctttgtga caagacaaga aagttttctca 60  
gcagctcata ggtttgtcct acaagttttg ttaccaacga gaaccactca acgtaacgtg 120  
cttcagactg aatagttcga agctgacgga agaagaaaat gtggctatatt atggaaagtg 180  
taacaacgaa cactttcacg gacacaacta tactgtgaaa gtaaccattc ggggtccagt 240  
acatccagat actgggatgg tagtgaacct tagttcgttg aaggaagcca taagagaact 300  
cattgtggag ccttttgatc acaagaattt ggacttggtg gttttcgaat tctgcaaatt 360  
aggtattcct agcactatgg agaatttagt tgttatcata tggaagagat tattcagtcg 420  
gttcaaggac ttgctttacg aag 443

<210> 1397  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-A10  
  
<400> 1397

ctttttacta tatcgtgttg cgattctaga gcatctgcac agagagaact aaccatggat 60  
gatcatccgt tgggtggaaga gcaatatgat gatgaatgga taaagaagcc caaggttgct 120  
cacaagaggg gttgtacgaa cttgaccaac gaaagtattt tgaaagcggg gcagcagcta 180  
tccagaggcg aagctcacta cttacttcgg caacacgttt tgacaaggct cgagttgcat 240  
tctcatctcg tcaacttaat agagctgtgt caacaactgc ttgccaatc cgatggcgct 300  
cgtttagcct ccttgaatta tcagtgccac cacttttcag tgactagcga caagtcaaag 360  
ctcctgaacg ctttttgatt ttcccatgt 389

<210> 1398  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-027-Q1-E1-A11  
  
 <400> 1398  
  
 tcatggctgc gctccgttgc gtctccagct gcgaggttat tgggttggcg ggattatggc 60  
 tctcatgtat cgggatttgc gaatcgacca gtgctagtcg ataacagtac gtggcataat 120  
 tctcacattg cggcggttgg tagagtatta agctcaccag tcaggaaggc gtttcagata 180  
 tgctagtacc tgggtgtcga ttacgtgttg gtgatatttg gtggtgctgc acggtatagt 240  
 tcgcgatgac atcagcacgt ttctatgggc tattcgaatt tctcattcgg ttgatccgac 300  
 agtgcgctcg tgtgcctatc ttacagccgg tg 332

<210> 1399  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-027-Q1-E1-A12  
  
 <400> 1399  
  
 ctgtgaaaat gcagtaaact agcagtagga cggaaagacc ccataattct tgactagata 60  
 ggtttaggga ggagagagaa tcatgaagta gaggagggtg ggtaagagat gaaagaccac 120  
 tgcattgagg taaggaatct aactgagtaa ggaaaataag cttaagctag tttggctggg 180  
 gaagtaaagc ctaagaaaga gtaaattagg caagcaaagg catgagagaa gtataatagc 240  
 agaagcatgc ttgaagaaaa agaaagagat ttcagaaagg gaagaaaagt cagctataga 300  
 gaacatgtga aggagaactc aaaaagagga gagcaccgaa cgatcgaaga agaaactttg 360  
 ggggtaacac gttaatgtgg tg 382

<210> 1400  
 <211> 225  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-A2



<400> 1400

acgcgctccgg acangcgtgg gcggaacgca gggttcgagc gtttgagttg tcgatgaaga 60

agactcacta accgatggaa tagcacaaaa gggagataat tgggaaccaa acctgggaag 120

tccaaccag ctggatccga aaggaaagca accaaatggg gccttacagt ggaccacgag 180

taaaggtaaa agttttcccc cttgggttgg gggggtggtg aaaaa 225

<210> 1401

<211> 470

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-A6

<400> 1401

ccacgcgtcc gcccatctgc aagagtaaca tcctgatgag gcagttgcct atggtgcggc 60

agttcacgct gctattttga ctggtgatgc cagtgagaac acgaaggatc ttttgttatt 120

ggatgtgaca cccttgagtt tgggtatcga aactgcagga ggtgtaatga caaaacttat 180

cgagagaaac acgactattc ctacaggaa atcacagata ttcactacgt atgccgataa 240

tcagcctgct gtgactattc aagtatatga aggtgaacgt gcgatgacga aagacaataa 300

cttggtgggt cgttttgact tgacaggaat tcctcctatg cctcgacgag ttactcagat 360

tgaagttacc tctgatattg atgccaatgg tattttgaat gtgagtgcag tggagaagac 420

tacagtaaga gtaataagat aactattacc aatgataacg gccgcttacc 470

<210> 1402

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-027-Q1-E1-A7

<400> 1402

tgtatgaggt tgaaaagaag accgcagaat atgagataag aaagtacccc agcttaagaa 60

tagctgaagt tcatcggttca gactggaaaa aagaagagaa tggctcggca tacgactttg 120

agtcgcaagc atttcgagtg ttggcgctcg acattggtgt atttgagaa cccaaggaca 180

aagatagctc caacacgcat gttaagatag caatgacagc acctgtttta tcacagccca 240  
taggggtccgt ggaaacacga atggacgaca gcagtctagc gtttatattt gccaaagagt 300  
atgcagagca acaagaacct ccacagccat ttagaccacg agttcacttg cgtantgtac 360  
ctgtcagaaa aattgcagcg actactttta gtgggtactgt caatcgtgaa acat 414

<210> 1403  
<211> 476  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-A8  
  
<400> 1403

gcggacgcgt ggggtttcgt ttgtatttga gtggaaagga agtcaatatc gaccttggtg 60  
ctattttaaa gtgcttctta tttccttggt agttcatatg gtctattgta gtttttgagg 120  
ttagtgcttc aaaggcaaag tcgccaccag gtacttggtc gtatggacca atgtccggtt 180  
gcaactttgg gatagcttgg ggtgttattg gctgggtact tactatatta attattgtgt 240  
tggttggtct tcacgtgggtg aaagacgcct cctttactcc cctaaaggag tgtatagcaa 300  
atgccgtcat ggcggtttgg tgggttattg cagctgttgt tttctctgcc aaagagcacg 360  
atcacgtcag tgaaactagc actacgatca cggcattttc ctggatgttg gctatacttg 420  
ctgcctgtag ctcagctctg gccttgtatc aatctcagag agagacggaa gatgat 476

<210> 1404  
<211> 481  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-027-Q1-E1-A9  
  
<400> 1404

gcgtgggtgc gatacnatta agagtggggc tcccagacgg aagtgtttcc actttgcaag 60  
tggaacaaga cgctacagta gaccaattaa aagaaaagat ataccaagaa aagaagttgg 120  
accccaaaac aaaacggatt cgtcttattt attcgggaaa attattgagc gaaggaactt 180  
caaagttagt agattgcaaa gtagaagatg gctcctatgt gcactgtgtt atctcagatg 240  
aagttgcacg tggtcgtacg aaccacactc aggaaagaag cgaacgttta cagactcgca 300

ttcgcgtggc tgatccccag tcagagtatc gaggtttgga ccgtctccgt gaagcagggt 360  
 ttaccgacga agagataact gttctgcgac gacaatttgc tcgtagtcaa ggtctcagcc 420  
 ctgagcaagt agaacatata accgacttga gagaaataga ggaacgatgg atgggagatg 480  
 c 481

<210> 1405  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-B10  
 <400> 1405

gcaatgcagg tttcttgaaa cgcgccatgt tccattttgc atatcagcga cagctggaac 60  
 gagtgaagaa tggctctcga tcgtggctta tggacaagtt agtattcagc aagataaagg 120  
 cttctgtctt ccctcgccta cgatttatgg tatcgggttc cgccctctc tctgcagcta 180  
 cacataactt tttaaagggt tgtttcatgg tcccagtact acaaggttac ggattgacag 240  
 aaaccactgc aggagtcaca atatgcggtc cagacaatcc tgcaggttct gtgggtgggtc 300  
 ttttgctgt tgctgaaatc aaattgaaag atataccaga aatgaactat acgtccaaag 360  
 caccggcggt tccgaaagga aagggtttgtg tc 392

<210> 1406  
 <211> 474  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-B4  
 <400> 1406

acgcgtcggg gcgaccgagc aagaagagaa gagagaatgc tgggtggagt agcgaaacat 60  
 gagaagggaa gtaaaaggta agaaagagga aaggtttacg agagaaggaa gtagaaagaa 120  
 gagagtgtaa ggcgcgtca taatagaaat ccgaaaggag tagaagaaaa gagagagaag 180  
 aaagaaaaga agagaaaagc cgtactgaag accgacacag gtactcgagg agaaaggaga 240  
 cccaaattaa ggtgagagaa tggacgataa ggaactaggc aaaaggatat ggtatctgcg 300

gtagaacata tgaaagaagc agcaccgact gtttagcaca aacacagcac tctgcagaaa 360  
 agagaaaatg taaagtatag agtgtgcggc ctgccacata gtagagaaga catcgatgaa 420  
 agtgagagcg agtaaaagat gacgtataga gaatggcggc cctaacggta agga 474

<210> 1407  
 <211> 437  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-B5  
 <400> 1407

tgctcggatg gtgatcaaga tattattctt atatgtttta tgtttggcac attttcctcg 60  
 tggttcgatg gatagagaag ttgttcaaaa gatggttcaa ttgattcgtt tcgtccatca 120  
 actcacgcat cggtcggttt tatcagcggg tgcgattcag actgccggtc taaagtctat 180  
 tagtgcgaaa catttggtta tggcatatca gagccttcaa tttttgtctc aatatatgga 240  
 tatgttactc gatgcactat ctacttgggt ggtaatcgat cctcatacgc tttccgactt 300  
 tcagaatgta caaagagagt tgagagatca tcaaggtcaa atattggcga aactttgttc 360  
 catcatgaac gaacgaatgt cctatcatca acagagcatc gagtcgatgg cttggaacaa 420  
 cgattcgctg ttggaac 437

<210> 1408  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-B6  
 <400> 1408

gggagtcgcc ttttttgggt ttggtgtacg ttatttcaga aacaatggaa agttgggttc 60  
 aacaccttga aaaacaacta gaagaagcga aaaattgtta tgataagcga gttgcagaag 120  
 aaaaagtcca agacgtgttg aaaagtagtt ctgaaatgtc caacttgctc gtttccgtgc 180  
 tacctgaacc agttcgagga cattggcaaa aacaactgga aagggttag aatgaaaaga 240  
 cgcaaaaagg agtttgctgt tcctattgtg caaatatcat ttcgagtgac cgaatgacgt 300  
 catgtccgct cggttgtcca gacaagtttt gcaataaaac ttgtttgaaa gaaggattgg 360

aagaacatag

370

<210> 1409  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-B8  
  
<400> 1409

ttactgcagc ctgtgccttg ggaatgacga gaaaggatat cgaaatattt tgcactcgac 60  
tggaagagtg ttttcaagaa gcttatgaga aattggcatt gcagaagaag gaagaatatt 120  
tatgagtaca tctttgggtt tctttcttta tccactctat gtataatttg cattgattca 180  
agaatgccaa tatatctgta tacaaagagt tccaatgaag aatcaaagtt atttgaaact 240  
tgaaataccg tatgtcctcg agatcatc tgtattatcc agaataactc tctaaaatat 300  
catccaaaaa aaaaaaagtt gatccatctc gctatctttg tcattcatta ttacttact 360  
cgatagaaaa cggtcggtca agcagcgtct tttggattgg atatattttg ttccataaat 420  
g 421

<210> 1410  
<211> 183  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-B9  
  
<400> 1410

acaataattt aaacaaagac tgcgtcagag tagtagctaa gtttgactcc ttaggggaga 60  
tactacctcc tgaactcgtg cgtgacggat aatgttttaa cacttttcca cggtgctggt 120  
ctcagccaaa tctcactggt gagcgataac gacgatatag ccgtttcagg ggctttgggt 180  
ttc 183

<210> 1411  
<211> 464  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-C10

<400> 1411

aggaaagtgcg aatgtggatg aaggactgcg aggttacttg accaaatatg attgtagcag 60  
tgccgatatc aatcctatcg gtggcatttc gaaagttgat ctcaagtcgt ttcttcgttt 120  
tgcttcgaag cctttggaag aaaatggatt gggatacaca tctttgaaaa gtgttggtgga 180  
agctcctcct actgcggaat tggagccaat tacctccact tatacgcaaa cagatgaaga 240  
agatatggga atgacttatg aagaactaac ttggtatggt cgtcttcgta aattgggtcg 300  
ttgtggacca gtgagtatgt ttctctactt gtcgcaggta tggaagcatc taagtgtgag 360  
gcaagttgca gataaggta aatttttctt tcgtatgtat tcgatgaatc gtcataagat 420  
gactacgctt acgccttctt atcatgctga gaattattct cctg 464

<210> 1412

<211> 127

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-C11

<400> 1412

tttggatttt tcgcacctat gaaaaatccg cttttaatcc tttggtaaac aaccgaagcc 60  
tggcaatgca aagtcccgtt tggccccgtt tcttggcaat tcgactgcgg ctgaactttc 120  
gggggct 127

<210> 1413

<211> 306

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-C12

<400> 1413

gattttatac agttacttga gttgttacat cttcaaatac cccaagataa cagtttatca 60  
actccgatgt cctcgtttcc ttccttttcc aagtgggcga acaagcacag tggaaacatc 120  
gactagtcgt cgtcgttttt cttgttgcoct ttcacgagac tcgagactgc agttttggcg 180  
ctgtccatag cttctgtagt ttgtcgaagc attcttttag aaagtttttc cccaaatatc 240  
tttgtattat ctatgtattg tgctcttagt aaagtattcg taagggattg gcagtgcaaa 300

<210> 1414  
 <211> 612  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-C5  
  
 <400> 1414

gagttgctcg gtgatgatca agatattatt cttatatggtt ttatgtttgg cacattttcc 60  
 tcgtggttcg atggatagag aagttgttca aaagatgggt caattgattc gtttcgtcca 120  
 tcaactcacg catcggtcgg ttttatcagc ggggtgcgatt cagactgccg gtctaaagtc 180  
 tattagtgcg aaacatttgg ctatggcata tcagagcctt caatttttgt ctcaatatat 240  
 ggatatgtta ctcgatgcac tatctacttg ggtggtaatc gatcctcata cgctttccga 300  
 ctttcaaaag gtacaaagag agttgagaga tcatcaaggt caaatattgg cgaaactttg 360  
 ttccatcatg aacgaacgaa tgtcctatca tcaaaagagc atcgagtcga tgccttggaa 420  
 caacgattcg ctggttgaac aatgggaact tencagtcct tatatgcagt ccacgttcg 480  
 agagttgttt gttctcgaca gaaatatcca caccttgggg atggcacgag agtggaatga 540  
 cctgtctagt cgggataaat tctcntatgc ggaaaaattg acaaacgtat atgaaagtct 600  
 aaagtcgatg gg 612

<210> 1415  
 <211> 472  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-027-Q1-E1-C8  
  
 <400> 1415

cgcccacgcg tccgctctcc cgttttgaat gcattcgatc agtgttcggt gcaacctgct 60  
 tcttacgaca tgccaaactt atctcatctt cctacatgcg atatgtatct tgtatgggtg 120  
 ggtgaatcac ctcaagtcac gtcctcaagc tgttgtttcg tttggaaacc tcgtttcttg 180  
 ggaaaaacta cccaaccagt ttggtgagaa cgcagtgggt acttttcaac tggacgcaga 240  
 cttgcaaagc ttgtggaatc tcaacgtcaa atatgtatat ctctatttgg ttgcggaata 300

ttcttgcgcc cggttcccggt ggaatcaagt aaccgtttgg gatcggttatg ttgaacgagg 360  
 ttctactgtg ttttccgctt ttccgtatta caatacggtg ggtttgcaca attacgtgga 420  
 tacgctgaga aacgcaagtc tggattttcg tccggaagcg gatattcattc ct 472

<210> 1416  
 <211> 248  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-C9  
 <400> 1416

tccgcttttg aaaaaccttt tctgattctg cgaagcctgc atggtgtaat tggctcttat 60  
 ctgcttccaa ttctcggttat cctttgtctt tgcaggcgat gcagttggaa taagagagag 120  
 gacaatggga agagaaagct ttaaaggcat ggagagaaag cagtttggtta ggattgcttt 180  
 caatgaaatc caggccttgg gacataggac atacagtacg ttctccgttt gtcgatattt 240  
 agacagct 248

<210> 1417  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-D10  
 <400> 1417

acgtgctgtg aagtgagaga acgtacgaga aagccaagtg aggaaaagaa ggcaagtata 60  
 gggcggtccc agaaaggaga gggcgtaaga cgtgatacag agtacgaaga aaagagaaga 120  
 gagctagaaa ggaggtaaaa gaagagtaaa aggactagaa gaggtacgga attcacgagg 180  
 aaggagcgtg aaggaaggag gaatcccaag taatcgagga agaaaaagct tcggtgaaag 240  
 cgtgaacgga ttttgtacac actgcccgtc aagttctgga agtgtgctag gaataagcag 300  
 gggaagtaaa aggttaagaaa gaggaaaggt ttacgagaga aggaagtata aagaagagag 360  
 tgtaaggcgg cgtcataata gaaatccgaa aggagtagaa gaaaagagaa cagacat 417

<210> 1418  
 <211> 364



<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-D11  
 <400> 1418  
 ggggtgggttc ctttaggaag cagccaggat ttgttcgect ctttaccttt tccaactatt 60  
 tcttcggttg gaagtaatgc agctattatt cactatcgac cgaatccaaa ggattgtaaa 120  
 cgattagata gtgaggatat ctatttgtgt gattctggag gtcagtatag agatggtaca 180  
 acggatgtaa cgagaacttt acattttggt actccaacgc ctagagaaaa ggaatgctat 240  
 actcgagtat taaaaagtca tattcagatg gacactgcag tattttccaa aggaacgagt 300  
 ggatttgcgt tggattgttt gaaaagagct cccttatgga aaagttgggt tggactatcg 360  
 acat 364

<210> 1419  
 <211> 501  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-D6  
 <400> 1419

ccacgcgtcg ggccagctat agaagctata agggcacaaa tcnctggtgc gcctggaaga 60  
 gttgctgcta gacttgtttc cgttttcggg tcagctggaa gtggagatgt gttaaaggtc 120  
 caagagtatc ttaatatattg tggatatgcat cccactgcgc atttggaagg tagagaagaa 180  
 gaaacaaatt caacggaaga gacatcgtct gctggtggta acgttcctcc atcgaataca 240  
 gatcatgaaa cgtcttcttc cgcaacgaat caggcatccg atcataccac aagagatagg 300  
 aaagatggaa aggagttgtc cgatgagcaa acggtagctt gtctcggaat tgcagctatt 360  
 gctatgagag aagatattgg aacagaaatg gcttttcgta tttatggcca tttgttgag 420  
 tatggagacc ctgctgttcg aaagatcgtg cctctgtcgt tggggctctt aactgtgtcn 480  
 tatccacggt tgcaagtgat g 501

<210> 1420  
 <211> 466  
 <212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-D7  
 <400> 1420

```

ccacgcgtcg gccacgcgt ccgcccacga gtccggtaat ttggtttgtc gtcaaacaga   60
agttgaattg gaaatacatg agcgaggaat agagcttgct ttggaagatt ttctccattc  120
caaggatcgc gcactcggtc gacaaataag aaaagtagaa catgtgccta gggagtcgtt  180
gatgcaacat tccaatatta caacacgtga ggcttgtgtc gctgtggtaa atattgtttc  240
cccaagtgtt tcttgatgat acaagtttgt ctaagaatcg ttgaggagtc taaccgattt  300
gttttcacct tgttggaac ttatggatac aactcagagc tctcatgtgg tcacatcgaa  360
gcaaagtaat agcctacgta gttggaacgc attgtttgca ttgaccgtac ctagtcggtc  420
tgcaagttac gagtgccttg ctgctcagat tatcgatgca cgtcga                466

```

<210> 1421  
 <211> 575  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-D8  
 <400> 1421

```

tcttgcgcat tgacaggtct tggcgcaatg aagacagtta ctttgtatgg agtttctttg   60
ccactatcag ttgcttgctt tttgtttcag tttattacct atcatattac ttgtgggttc  120
tttgcgttca tagactatta taagcttctt ccagatcaga agctgcacaa ttcagaccac  180
aaaacttata ctcaagttgct gcctcgagtt gtgtttaatc agattgtctt ttatctgccc  240
agctttgttc ttttgcaagta tttgggagtt gcgttctggt cctttgagcc caagatatct  300
at ttggctgt ttgttgctga ttatcttttc tattctttcc ttcaagaaat tatcttttac  360
agcggtcacg gattcctggt acattccaag tggggattcc agttggtggg acatgaattg  420
catcacacta ccaacgggtc tgtagctgtc tcgcaacact atatggcccc tattgactat  480
cttattgaga tagttattac caatatgctt cctttccttt tcatgaagaa aaccaatcta  540
tattttgaga tgttcgtana tactctgaat acaat                            575

```

<210> 1422  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-D9

<400> 1422

gagatcaccg attttctact ggttctgttg tcaagttgca taaaattgcc gaacgtatcc 60  
 cagtggaaga aggtggtgag gaggtcgagt cggtagctga ggaatacacc aacgtggaaa 120  
 ataatagaaca ttatacagcg aagcatgaag aataagaaat tgtttccaag tttgttcggt 180  
 ccaaggcagt acctggttct tcgaaagcat cgagtaaggg tatcatgatg ggcgaaaagg 240  
 gatgtacaaa gagtatgaaa actgctacaa acaaataag tactcgatct tccatgcact 300  
 cttgccaatg tcatttgttg cattcattgg aacacttcat tttgcaagtc ataaaacgca 360  
 ttttttcact c 371

<210> 1423  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-E1

<400> 1423

gagaaaattc tcgagagtaa tagacatgta ttggataagc tggccactct gttgatggaa 60  
 caagaaacgg tgacaagtga agaactacaa ttattgctgg cagaaaatga agtgatcatg 120  
 atggactatg aggaaactcc aagtgcgcct attgaaagta gaaatatttg gcaganatat 180  
 aattctacac cgtcggtcgt agaaaatgga agtccttcaa aaataataga tagtgatgga 240  
 gacttgatgat atacaaaact agtctgcttc cacctttttt cggtttggag gagaactgtc 300  
 tgcaagtaaa acttcttcca atacacccgc tggaaaagac gcttctggtt ggtanggctt 360  
 gttattt 367

<210> 1424  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-E10

<400> 1424

cttcgggggtt agaactgttc acatggcaac tgatggcgat tccaggcatt gattatcgag 60  
gagctcaaga agttgtatca tacggaattc gctctctgac agaacttga gagcagttgg 120  
atcgctactc aaggcgtgac gaaagaattg cgtggctgca agagatatct cgcaaatgcg 180  
gaaagaaaag gtggaatcgc agcttgtatg aaacgatgga agcgctattt tgctccattg 240  
gtgggtactta tccaccatag aacgaaacgc agcaagaagt atccgtcaca atgtttcttc 300  
aggttttctt ctaggaagat tctgcttggg ttgtagtagt attcacaagc aagtaaacaa 360  
cggactattg tctacaa 377

<210> 1425

<211> 318

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-E12

<400> 1425

tgtggtatag agaatggcgg tcctaacggt aaggatctaa aggtagcgaa gtatatagac 60  
gtttgaaagg cgtccagtat gaaaggagaa acgagtgtag cactgtctag tcgtccaact 120  
cagcgaaaca gcaataactg tgaaaatgca gtaaaactatc agtatgactg aaagacccca 180  
taattcttga ctagatacgt ttatggatga tagagaatca tgacgtacag gacgtggggg 240  
aagagattaa acaccactgc atgatgataa cgaatctaac ttactaagga aaataatctt 300  
aatctacttt ggctgggg 318

<210> 1426

<211> 356

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-E6

<400> 1426

aggatcgacc tgagtatcat gaagacgagt gggactatct gcagatcgca cgatcaagga 60  
catcggcgtg tgagaggggc ttggttgagg attgcatgaa agtaggttga tgatatagt 120

gagtgtcctt accttttgca cagtgtgtca gcgactgtga gaggaagctt tctgttgac 180  
 gtgtaagtgc tgatttaaga cacgatgcta cttgatctta tgctgtccaa tccaagtaag 240  
 gctagaacag tatctgtggg aaaagatttg gcacagatgc gatatggggg gaaacgcaa 300  
 tcatggcgat tgatatctgg tactcctcgt catctataga agtagcgtat gcacgt 356

<210> 1427  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-E7  
 <400> 1427

ccacgcgtgg ccaacgcgtc cgcggacgag tgggacactg ggtagatttg aacaaggact 60  
 ttggaagccc ataaccgtta tcaaacggca agatcgagtt ggcttgggag ccgaacaaaa 120  
 gacagtctgg aatgacttgg ggtgggaaag atatctatcg gaagcaatca ggaagaatct 180  
 ccaacgtttt gaaagatcca cgacggaaaa aggtgaagac attgcagagg aaagtactgt 240  
 ctcacgaaaa gaacggagga ggaagaagaa aacaagtagt tatcgttcga agaaacgaaa 300  
 agaaagagct ataaaggaag atgggaaaaa acgaaaggct cgcagagata gataggatgt 360  
 attcgcaagg tttaacatca gtacgactag tgttgtttat atcgaaacga taactctttg 420  
 atgtagaagt cagtaatacc ggataaaata 450

<210> 1428  
 <211> 484  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-E8  
 <400> 1428

cgcgtccgcc cacgagtcgc gagatgaagc gtgcatggca ctggatcatgt agcaaccgct 60  
 ggttcgtcta ttacatcgcc agctggtcgt gtgattctct cttgtgaggt tagctccggt 120  
 atagcaagggt taaagccatc ttggaatcgt ccagacttta agtagattgg tagttcaaat 180  
 ttattttgaa aaaaagtaac gctaggatgg tttggctttc accttgctgt tttttcttct 240  
 tgggttgcta ctactgtaac gcggtgctca gggaacctag aatgaatccg aaccaaacga 300

gcgagggtttt gctatgatag agtgataaga acgttgacgt ggacagacgt cttttgttcc 360  
 ttttcgttgc aacaagtaca aaagatcgtc acaggaaaaa catcttgtca ctgagtacaa 420  
 cgtgcacgcg tgcagtgcac tctacnagca caattctatt gataaactag tacaagacaa 480  
 caat 484

<210> 1429  
 <211> 221  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-E9  
 <400> 1429

atttgtcata agactttcga gtctctatga ggaacatact gatcatggaa ctgtttgggt 60  
 aactatgacc cgaataggac atcgcaacgt atgtctgttt atctattcag agcctctttc 120  
 ttcggtgagg cgtggctggc tagaaacacc ctcattcggg gtgtctgata ggagcgacgg 180  
 atggcaactg gaaaatatct tgttttatcg tacgttcttc t 221

<210> 1430  
 <211> 276  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-F12  
 <400> 1430

tgggaatttc gtcacaacag gacggtagcg gttttgcact ttttaggaga tcaactcttct 60  
 tgtctgtatg attgctttat tgattgcaca gcagctgatt ttccggagaa gcctcaaaga 120  
 tttcgagtcg tatacaatct attatctatg acatattcat cgagaataag agtgcagacc 180  
 cacgtagatg aggtaactcc tatagagtca gctacttgtc tatttaaagg tgcaaattgg 240  
 gcataacgag aagtgtggga cttgtttggc gtattc 276

<210> 1431  
 <211> 492  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations

<223> Clone ID: LIB190-027-Q1-E1-F5

<400> 1431

ttacataagg cggagtttca nagaagatct agagtgtcaa tctgtcnctt ttttataggt 60  
atagagtgc aagaggggtg cgttaccaat acggcatgtc tgcgcactcg tcgactcaca 120  
aaaaaagaaa gactatggca aaagaccgaa tatgattcga caaagagtaa acatccgtgg 180  
aacttgtatt gtagcaaccg ctggttgatc gtttacatag ccagctgaac atgtcttggc 240  
ctcttgcgag atgcgctcnc gtagaactag gtaacaagc catcttggag tcgtgtaggc 300  
tttatgttga ttgttaatcc aaatgcaagg acggtttgga ttccacctcc ttgttttctt 360  
cttggttgc tcctgctgta ctgcggtgct aaaaggaaca agagtgaag cgaacaaaaa 420  
aggcgaggtt tcgctatgac agagcgaata gaaagttgan atgaaaagac tgcgttggtt 480  
ctttccgtgc ac 492

<210> 1432

<211> 305

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-027-Q1-E1-F7

<400> 1432

ccacgcgtcg acaatgcac caccgncgag tcgccggacg tgtgggatcg attgatgcgg 60  
aaaacgttcg acgcgagatt gtcgtcagaa agataaagga accttttttc acaaccagta 120  
aatacttaca tggatataac atctttcata tcatatagga acttttcttg gggtagacga 180  
cagcccaact ttatatctgt cgcgaagcaa cgtacgaaag caacatatct gagaacagta 240  
aagtccaacc agttggtaga agtatcatgc atgttgaaat cgatcccttt tttccaaaag 300  
ctatc 305

<210> 1433

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-F8

<400> 1433

tcatatatta gccaggagta tatggagagg ataagagaag agagtaggggt gtatgtagga 60  
 atgagtataa taacaggaat gatatggagt aaagaagtgt ggggatcatg gtggataaat 120  
 gatgtaagga atataagcat gttagtatgc tggatatgggt tggaagtaat aggaggagta 180  
 aagaaggagt acagaggaat aataagcagt ataggaataa taaatatacc gataataaag 240  
 tactcagtag agtgggtggaa taccttgcac cagccagtga gtataagctc atggggagga 300  
 agtataggaa gagaagaagt agaagaaata gtgaaggtaa taataatacg agtaatgggtg 360  
 agtatagaga agaacatgat gaag 384

<210> 1434  
 <211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-G10

<400> 1434  
 ttagggaggc ngattttttg cctgangagt aggatgaaga ggtagacgtt gaggattatc 60  
 ctcaatcgcc acctttgggt cgagaatcac cggaaccac taaaaatgcg gtcaacgaac 120  
 aggaatccga tgcggttgca gacgaataga ttgtgcgtct acagaaacag aaggacatgg 180  
 agaggtttgc ttccttggac gaggaataac aggaacgcta tggctattat cgtatgggag 240  
 atttggatat gtacagagtg aagacgctgg tctcagcggc caatcctgcc tt 292

<210> 1435  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-G11

<400> 1435  
 gtcgggatga agggcacaag tccggttaaa cgttaccgcc acaggttgggt gacaccaaag 60  
 caaccagtag acagataaca agaatttttg cttgttcaga agaaacaaac ataacacatg 120  
 cgtgggtgggt tggtaaaaga acgcggttga gcttaaactg ttaacctttg ttcttgtgac 180  
 agtataaaga gtcttattct tcgtagctcg gtccaaagcc gagttttcct gtcacctaaa 240



aattagacat tctcagctgt ctttgcctt tttcaagggtg aatatatgat tacaccgagg 300  
 agctttttaca cgcancaaga acgacaaact ggtagaatgg tacttggtga acgactgcaa 360  
 actgtacagt caaaaattc 379

<210> 1436  
 <211> 477  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-G2  
 <400> 1436

tatgttggcg tttacttgtc tcacagactg tcgttggtta gagacttctc gatttctcag 60  
 atgtngcana gccaataccg tctcgttgcg acgtagttcc cagtgttcac actcttgagg 120  
 gagtgtttcg atgaactaca gtcgctattc gataactacc gacaaatcag aaggacatat 180  
 tgttcccggt actttttcaa gatttgagtt tcttgaaggt cgagtcaccg gtccaaccgt 240  
 cttgaaccct agcatacttg actttacagt gtctaattgt tcagatgctg cctttggaga 300  
 atggagagca ttatcggctt caagtatagc anaagaactg gaacacagaa gaaacgtcac 360  
 aaagcgacaa tagaaagtct caagaagact cctaccgaaa agtcaaggct tacattttct 420  
 ggacaacttg aagaatttta tcgaaggaat ttaaagatat ttcaacgagc cgggtga 477

<210> 1437  
 <211> 329  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-G3  
 <400> 1437

aagcgcaagt ctcgaaagaa gcctattcag aagacaaaa agccaacgtt ggacagagtt 60  
 ttcaactgtc ctttttgtgg acacgaaaaa acagtcgact gtactatttc caagtcaaaa 120  
 ggaattggtt ccgtttcgtg taaagtttgt caagcttcgt atactgcaca agtgactcac 180  
 ttggatgaag cagtagacgt gtacgccgaa tggatagata aaactgttca agccaatagt 240  
 tgacgacttt gttcattgtt gtgggaatat tccaacacca agtgtctgcc ataaaagtga 300

gtatctttca aagacaaaaa agacacggc

329

<210> 1438  
<211> 506  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-G5  
  
<400> 1438

ccacgcgtcg agctgaattg tttccagtga gtatggcatc tataccaacg acacaaaagg 60  
cgctggaggt tgttcagttt ggagaccgcg tgaaaggagc actgaaactt aacaaagagg 120  
ctccagttcc caagccaggg gaaggacaag ttctagtga aatgaaatat gcctgtctca 180  
atccggcaga cgtatttaca gtccaaggaa tatacccagg agtcaaaaac gtagttgaaa 240  
agaaaccagg tttttagtga ggtctcgaag gtgcagggca agtggttagct acaggggtccg 300  
gttggttcatt gaaagttggt gctcgagtcg tacctttgct aggagaaaag gctgggttcgt 360  
ggcagcaata tggtgtgtgc gctgaaaagc aatgtgtgcc agtgcctgac gacgtcgacg 420  
atgcaacagc tgctcaactt tttgtcaatc ccttaacggt ggtaggtatg ctggatgaga 480  
ttcagcgcaa tgctcccata aaagac 506

<210> 1439  
<211> 523  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-G6  
  
<400> 1439

gggcaaagaa aggccagtta atagatggaa aggcaattgc tgctgctata agagaagaaa 60  
taaaggaaga agttacaaag atagaagccg cggttggaag agttcctgga cttgctacgg 120  
tacttggttg gaatagaaca gactctacta cttatgttcg gatgaagcga aaagcttgcg 180  
aagaagtagg aatcgagtct tttcacacgg aacttccaga atctgtctct gaagaagaac 240  
ttttgagttg tgtcgaaaga ctcaattcag atccagcggg tcacgggata ctcgttcagc 300  
ttccactccc gaaacatatt aatgaggaga aaatcctttc agccatttcc attgagaagg 360  
atgtggatgg ctttcaccca gtgaacattg gaagattggc aatgaagtcg agaactccgc 420

gcttcgttcc ttgtacaacc agaggctgta ttgagctgct ggatcgaagc aacgtcgcta 480  
 ttgagggaaa gtgtgctgtc gtgttgggaa gaagcaatat cgt 523

<210> 1440  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-027-Q1-E1-G8  
 <400> 1440

accacgcgtc gcgcaatgca gcgtangaga ggaccaaata aggtgtggat agtaggaata 60  
 ggacagccaa tagcagatgg attgaagtta atgataaaag agggagtaaa gccacaaga 120  
 gcagagggaa tgatgtataa agcagggcca gtagtaacat ggatgttatc gatgctagga 180  
 tggagtgtag taccaatagg agaaggaaag gtaatagtgg atatagaagt gggaataata 240  
 gcatggatga gtataggatc attgggagta tatggagtaa taatacgacg atggggaagc 300  
 agttcgcagt acagcataat gggagggttta agaagtggag cgcagatggg atcgtatgaa 360  
 ttaagaatgg gagtaatgat gatatgtata ataataat 398

<210> 1441  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-027-Q1-E1-G9  
 <400> 1441

gcaatcttct caatgagtcg tattgtttct ccttgtgcaa gttgccacgt ttcgtttata 60  
 gtccaagata tcaggttttc tttattttact ccacgtttcc aaagcaaata taaaacgttt 120  
 tgttttttgt gttgttggtc gaatagcaac agcgataacc acgagcaaga caacgaggca 180  
 cctaggacga acaagttggg tccaaggaag gacataagac gctgcttaat aacacgtgaa 240  
 aagcttccca aagaccaact ttggagaatt gtacgaacac gagacgaaaa tggaagatac 300  
 aaagttcagc tggataaagg aaaagggaac gtccgtatat atctcaaacg acatacaact 360  
 aagtttacga gctcaaacc gtgtaaaact gttgaatc 398

<210> 1442  
<211> 53  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-H10

<400> 1442

gctacaaaagt tttaaccggg tatttaacaa tttctcaaaa tatacagaaa ata 53

<210> 1443  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-027-Q1-E1-H12

<400> 1443

gagaaaggat accactgagt atcatgaaac ggggtggacac ggtcacacca atccccaagt 60  
aagggttcctt tttcaatggg gaattcgcac aagttcccat ggccccttgt tcccacgaaa 120  
caaatagaat cctttgtttt caaagttctt caagtgggtt tgtacctgtg gagtttcttg 180  
agggtgaaaaa agcacaaaaga cttgaagtac cttgaagaaa cacttggact tgttgttctt 240  
tattccaagg taatccaaag gaacacacca ttctggcaatc caggtatcga cgtcctttcc 300  
tatccacaca aaactgctat agttttcttc cgtgacataa acgttatcca tgggaaaaga 360  
tgtgtctatc caananaaaa aaaaaaaaaa aggcggggcgc 400

<210> 1444  
<211> 284  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-027-Q1-E1-H5

<400> 1444

ccacgcgtcg gacgagctta attcttagag atngttgctg actagcagca ggagtagtac 60  
aactgtcgcg gggagatgga ggagtgatca ccttatcccc cacggaggcg tttctgtcat 120  
ccgtaacggg ctttctagcc taggaaaact gcttcgtttg ttgagaagaa tgtcagaaac 180  
ttgtgacatt gccaaagttt tggctattct gtatgctgct tgtatggctc gaataacgtg 240

gtttgctttt tttttactcg gataaagggtt tttgtttggt cttc 284

<210> 1445  
<211> 268  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-H6  
  
<400> 1445

cacgcgtcgc cgacgcgtcc gccacagagt ccggttggtt gtttgcaatt cgcttggtggc 60  
gtgtgaagtt ttggttacct tgaaataatg cagatatattg taaagacact tacaggcaag 120  
actattactc ctgaagttga gccttcagat actattgaga acgtcaagtc caagattcaa 180  
gacaagggaa ggattcctcc agaccagcaa cgtttgatat ttgctggaaa gcaactataa 240  
gatggtccta ctctttcaga ctataata 268

<210> 1446  
<211> 452  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-027-Q1-E1-H7  
  
<400> 1446

ggaattccga attgaccacg cgtgggacgac gcgtccgcgg acgagtggga attgattttg 60  
tcattgtcgtc ttcaaagtag tctatcgaga cgttattgct aaagacgttt cctaaagaaa 120  
tccctacttc gtattgtctc gtgtatgcac ttttggttat tccggtactc gcgctcgacg 180  
tgtagttata tcttgccgta ctccacttga acttattgct tcaagcggtt cgttgatcat 240  
cgggtactaca gtcggcttgg tgcttctagt tacgtcgtat cataaaaactg catatgccaa 300  
gtggtctaag ctcgatcgca caacagagca accaaccaag agctctttca agggtaattt 360  
gtcggcatac cgaagtggag ttgagagtca actatggctc ctggaaagat cctcggtcag 420  
ttacagtgtg atgataaaca acgcaatatt tc 452

<210> 1447  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-H9

<400> 1447

acgcgctcggg gacgcgtccg ggtgagaaca atatcgatca agtggttcatt attcgtcgcc 60  
atgaactttt tacaaaggaa atacatcaag ttactgcttg ttcttaacat tatttttatt 120  
ttctcactag tagggagtgg tcttgagcac ttcccaaacc tagttagaga gtatatgatt 180  
ctgaccccgaggagtagc tcaacttagc caagcagaac aagcaggggtg tagacaagtc 240  
agtggtgccag ttattacatc aacagtttcc gctgttcaag cagtatcttc ttcttactac 300  
gatgggggca ttacagtc gtcataccct cacaataagt ttccaagtcc tgccttacga 360  
tcctgggcat ataccattac tccaacgtc 389

<210> 1448

<211> 568

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-A10

<400> 1448

gagtcgtata acaaatgtac ctcgaaagcc attgcatatt ttaatgagta ccaaagactt 60  
gcaacattat tctcgaatat tttgtattgt atttgctgta gcacatgttc gctttcaaatt 120  
ggagcgggtgt tggttcctct tgcgaaatgt attcagagaa tgcaatcgag tatctctcgt 180  
caaacacaga aatacattac aactactgag gatgtgcaat ttttgtattc attgtattga 240  
agaattcttc cagattgact tgattgaaga gtcctttgaa aattttatga aacaggcaag 300  
aggagcttct gactttgata cgttccattt gttgcataga aaatcttgat actcttgtcc 360  
atcatacttt gatatactct gcatacttca tggagtcggt ggatagtctt ttgcagggtat 420  
tccgagaata ttgtttatac attcaacaca catttataga agacaaagct attgtccaag 480  
aactatctac ggaaaggaca cgaacattcc atgattcacg agcgtaaact tccgtttctt 540  
caagagctgc ancaatatct caatcatc 568

<210> 1449

<211> 491

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-A12

<400> 1449

gccacgcgt ccgtgttttt tgcggacact tgaagacagt tggaattgga taaaagagac 60  
gaggggagca catacagaag agaagctttc cgaggagaat tttgtctgca atagtatgaa 120  
gcaagtcgtg actgacacaa tagacttgct agaaagagta gagcagagat gcatagaatg 180  
ggacaaaaag acagaaaagc tttcaggaga agtgaaacaa gaatatttgt cgtttttggc 240  
gcctttttgtg tatcagcgtt ttctcgtgtg tttgtttact tggaacgctc tgttgattga 300  
atgttttcat tctaatttct ttgtagtcga aaccattcga gggtttgtta cactgactgt 360  
tggtgccctt gtttttagctc ttgccgctag tctttcgttt gcgcattatt atcgacgcaa 420  
aagtatgccg attttttgcaa aggaagacac atttttcgag tgaaggcaca aggtttgcga 480  
aaataaagaa t 491

<210> 1450

<211> 435

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-A3

<400> 1450

acgcgtctgc ccacgcgtcc gcagcatacc agagaggggtg gtgtgggttc gggagtgtgg 60  
tctttttgca agaataaagt catcgtaaag tgcgctaaga atactgataa atgtcacgca 120  
accaacaagt tgttgggtat gggagcacgg atagaacaag cccgcaagtg atgtgtagtg 180  
aaaacagtgg tgctgttgct ggctccttgc gtggcgccaa ccacgaagac caagcttttg 240  
tggaacactg gattcgaaaa gctttctctt tgttcgacca ggacggaaaa cgttatgtgg 300  
atagtgtaga ctttgcagac gatatccagc acttgtttcc caactgtaac gaacaagaag 360  
tcgaagagtt gctggaagac acggacctca acggtgttgg agttgtcact tgtgacaact 420  
tttgtcgcgc aatga 435

<210> 1451

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-A4

<400> 1451

cagaatttga actttgcaga aatcgaaaag gctattcata aattgggtga acacgcgaga 60

ttagggaaac taaccattca agatatgcaa ggcggtactt ttactatttc caacgggtggc 120

gttttcgggt ctctcgatc cacgcctatc ctcaatatgc ctcaaagtgc aatattagga 180

atgcatgcca ttcagaagag gcctgtagtc gtgaatgatc agattgtcat cagacctatg 240

atgtaccttg ccctttctta atgacatcgt ctagttgacg gaagggaagc ggtaaccttt 300

ttaagaagaa tcaaaagttt ggtggaagac ccacgcaaaa tgttactcga tattgatatt 360

tanactccgc aatatgagtt ttctaacgtc gccgacactt ggaaaataca at 412

<210> 1452

<211> 259

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-A6

<400> 1452

atcttggcat tcctcacttg gtgacgctgt ggngatggtc gacctgactg cacaaattga 60

aacacacaag gtcacagtgg aagtaagagc ccctgaaagt ggaacgatat tggaagagct 120

ggctaaagct ggtgatactg ttgcagtacg ggccgaaatc acgcgtttta caccaggagc 180

tgtatccgaa cgacgtgaaa gtgaccacac gaatcggaga caccatcttc tatccaacac 240

gtatcttcaa gccctgtat 259

<210> 1453

<211> 327

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-A7

<400> 1453

atctaagaca aatatttgtg taaaagtttc tcttttgtaa taacattgct atggatactg 60



tgcgtcatct gaaacaccgc ataaggaata tcaattggaa aaatgtgaaa cgcactgctt 120  
ccatagccaa aggggaaggcg gtttccaagg tgaaggattt ttacatgacc gactttgaaa 180  
accgaatagc taaagctact tctaatagaa actggagtat gggttccgta cagttggcag 240  
agattgcccc gtgcagttat aaccctttgt tgtataaagt tatgatggat atcgtgtaca 300  
gtcgtttaaa ggacaacgga cataact 327

<210> 1454  
<211> 238  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-028-Q1-E1-A8

<400> 1454  
actcatggcc atgctgttgg taatgtgtgt ctatagaaga acatgaggaa gaaagaggca 60  
catacgggaa agcagtaaaa gaagaaagag aaaggaaaaa actgagtatc acgaagaaaa 120  
gagggagtag atgaggaaaag aaagatcaag gaagtaagag taagagaacg agtaatgtga 180  
atganagcac gaaagtattt gaagaagaga gtgtaaagcg cgtacctttt gcataatg 238

<210> 1455  
<211> 458  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-B10

<400> 1455  
tcttttggga catctttcag gatccacaca ttgtccactt gtacggaaat tatgcagagt 60  
ttggcatttt gtttacactt gcctgtgacg cgagttgcac agttcctcaa ggttaagcgt 120  
aaattgatat ttggaggaaa gcttcctggt tgcgcaaata gatatagatt ggtcttgcca 180  
caaaacacac tcatgagcct ggagaagggc agaaaggcac cgagtgatga agaactacga 240  
cagaaacttt cgagctttga atatcacggt ttaagggaag gaggtacaga acgtgctttt 300  
actggagaat attgggattg tcacaaacag ggaatttatg agtgtcgtgc gttgggttac 360  
cccacttttc caagtcagat acaaggtagc actctggttc acgaaggccg tctttttttg 420  
ccccaggtaa gaccgatgca gtaactactc gcacagac 458

<210> 1456  
 <211> 457  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-B11  
  
 <400> 1456

tacaacactc gatcgtgagt cgtatagaga acanaactgt caaacttgtg agtagtgata 60  
 atgaagtttt tgaagtagac acaagcattg tatccctttc tgaacaata aaaaacgtct 120  
 tggaagacac ggaggatata gagagcattc ccttgcctaa tgtggaagga cgaattcttg 180  
 caaaggttat cgagtattgt agatatcact cactcttaaa gaccattccg cagtctgagg 240  
 aggatattga gcgctgggat agggaattcc taaatgtaga tcaaccaacc ctttttcatt 300  
 tgattctggc tgcaaactat ttggatatca agagcttggt ggatttaact tgtaaacgag 360  
 tagcagatat tatcaaaggc aagaagccgg aagaaataag aaaagagttt aatattgtaa 420  
 atgattttac tcccgaagaa gaagaagaag tacggag 457

<210> 1457  
 <211> 524  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-B12  
  
 <400> 1457

ccatggcgaa aggtagacta caggatcgtc ttgagaagct tctgccttat aatcagacct 60  
 ggtattttta tataaccaag atagtatttt acgtatgcac ttttattttc tctgtcgtca 120  
 ttgctgctct ggtcagtaac gcagagttaa atatatttga taaatcccca ccgaatattc 180  
 atggagactt ttgtgcatac aaggcgtcac tagctgagcc agctggcgtg actgccattt 240  
 gcaagtacct catagcagta ggtgctcttg gccttggtgt tgctataggg tttgttgcatt 300  
 tctctctatg gacccttttg gcacatcgag tgattgattt atgggtgggtc gaagccttgt 360  
 tgaatacctt ttggatggtc tgggtggtta tagcagctgg agttgctact gcagccaggc 420  
 cttcaaccgg tattcttgat gcggccaatg atcggtcagc tatcaatgca gttgaagctg 480

ttgcctgggt caacgcagtg ttgtatctct tcaacgtatt tctc

524

<210> 1458

<211> 466

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-B3

<400> 1458

tggttaagcan acatgggagc ctacaagtat atgcaagaat tgtggagaaa aaagcaatct 60  
gacgttatgc gctttttact ccgcgtccgt gcttgggaat atcgacactt gccttcggtt 120  
caccgagctt ctcgctgcac tcgtcacgac aaggcaagaa tgcttggcta caaagcaaag 180  
caaggttatg taatctacag agtgagagtc cgtagagggtg gtacgaagag accagttcca 240  
aagggtatcc aatatggcag acctaagaat cagggtatca cacaactaaa attcaggaga 300  
aataagagat cagttgcaga agagcgagct ggaagaaggt gcggaaactt gagagtccta 360  
gactcttatt ggatcaatca agacggtatt taaaaatatt atgaagtgat actcgctgat 420  
cctactcaca aggctattcg aagagatcca aaatacactg gatatg 466

<210> 1459

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-B4

<400> 1459

tcgcttttta tgaaagcgtt acacgacaaa gcagagaagg agtctatcat atacgcctct 60  
atacgctcca gcggtttcca tggtagatga cactattcct ccagcttcag acgcgaatca 120  
agacagctaa cttgatagtc gttccgcttt ggtcgatttt tttgagagcg cagaggttcc 180  
cgatcagacc gctcagaaaa atggtatacg atatagacaa gtacgatttg cagacaagac 240  
caactttgcg gaacaattca cgcaaagttt ggaagagaaa ttgcagtcct ctcaagtttg 300  
gattgaccag cttcaagagg aaaatcgagc actgacagaa aagttggtca taatgacaga 360  
tcaacaggaa atgaaagatg aagttgagct catgacgttg gaaaacagtg aacttggtgc 420  
tg 422

<210> 1460  
 <211> 293  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-B5

<400> 1460  
 attaccgaga aggataacta ttgccggaag gaattcttta ttttatccga gaaggcaacg 60  
 agtagaaaat caacanaacg aagcacaaca gaacggcagc gtggagcaag caaaggctgt 120  
 tactcaaagc tcatcaaact gtacagacgc cattccagaa agagaagtca cngacaagga 180  
 aaatcaaagt ctcatctcac ctaactggta ggagtcacgt tccatgaaac ccagccacaa 240  
 gatcatcaag atgaacaatt caattcgga ctaaagtatg acaacaaagc tgc 293

<210> 1461  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-B9

<400> 1461  
 atttgcaacc gaagttgctg gaggaccgga tttgggaacg acgggacgtg gaagagatac 60  
 agaaataaat acttatgttg aaaaagtatt tcgttcagaa ctttcaggaa atgtgattga 120  
 cttgtgtcct gtgggtgctg tgacttgtaa agaatatgtt ttttcctctt gtgaaaatca 180  
 ataaaaccaa ctagcatttg ttacaagcct tggaaaaaaa aaaacaacaa aaagaagaac 240  
 aaaaaacgac gacaaaagaa ctagcacata gcagaagaaa agaagaagcg aacatctgaa 300  
 ggtaacggag agtaggtgct aatggaaact gtccaccatc caatgaaaaa gggggggggc 360  
 cccaagggg ttaacgtt 378

<210> 1462  
 <211> 556  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-C10

<400> 1462

ctaccaactg tttagctcct ttgactaaag ttatcaatga taaatatgga atcctggaag 60  
gtttgatgac gaccgttcat gcaactactg ccacccaaaa gacagtagat ggaccttctc 120  
acaaggattg gagaggagga agaggaattt tgaataacat tattccatct tctactggag 180  
cagccaaggc tgttggtaaa gttattcctg aactgaatgg caagttgacg ggtatggctt 240  
tccgtgttcc ttgtccggat gtttctgtcg tcgatgtcac ttttcgttta aagacaccaa 300  
ccacttatga cgatatcaag gcaacgatga aagctgcgtc agaaagcaaa gctttaaagg 360  
gaatattggc atataccgaa gatatggtag tttctactga ctttggtcac aatagtcatt 420  
cttcgatatt tgatgcgaat gctggaatta tgttgctgga aacttttgtg aacctgattg 480  
cttggtatga taatgattgc ggctactcca atcgtgttgt acatttggtg caacatatgg 540  
cgacagttga tggtgt 556

<210> 1463

<211> 488

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-C11

<400> 1463

tatcatgaca tatagtgaga aacctgatta tgagaagtgt gtcgctatcg ttgcgaatgc 60  
tgcactgaga cagatggctg cacctgggtt gttagttgtt gttgtccctc tttttgtagg 120  
gttccttgct gcatggattg gaagagtctc aggaaaatca ttggtgggag tacaagtttc 180  
tgcaggcata ttaatggttg gaacgatcgc tggatttctg atggcacttt tcttgaataa 240  
tagcggcggt gcatgggaca atgccaagaa gtatattgaa acaggtgcat atggtggaaa 300  
aggttccgag gctcataaag ctagtgttac tggagatact gtgggtgatc cttttaaaaga 360  
tactgcaagg ctttccttac atgtcttggg taaattacta tccaccctca cactggtgtt 420  
tggtcgctg ttcttgactt cggcgggaat aaaagtcatt tctggctaaa gggcattacc 480  
ctacatat 488

<210> 1464

<211> 558

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-C12

<400> 1464

ttcatattcc tttgaacaac ttgggaatga cgcaagctcg tttccaagtc tgcaattcga 60  
gtctttcaga atatggcgtg atgggttttg agttgggata ctcttggaa agtcctaata 120  
ttctagtgat atgggaagct cagtttggag atttttagtaa cggtgctcaa gttatcattg 180  
ataccttttt agccgcagga gaaaggaaat ggagacgtca atctggactt acgctattct 240  
tacctcatgg aatggaaggt caggggtccag aacattcttc cgcacgattg gaaaggtttt 300  
tgcaattatg tgacgatgat cctgatgtaa tacctgaaat gcatactgat cgaactcgac 360  
aaattcagtt gtgcaatatg caagttgccca attgttcgac acctgcaaata ttctttcata 420  
tacttcgtcg tcaaatacac agagagtttc gcagaccttt ggtattgatg actccganat 480  
cgttattgcy acatcctttg tgtaagagcg atttggcaga ctttcttcga acaagttggt 540  
tcaaagagtc atatcgga 558

<210> 1465

<211> 488

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-C3

<400> 1465

aatccgaaag gagtataaga aaagagagag aagaaagaaa agaagagaaa agccgtactg 60  
aagaccgaca cagggtactct aggagaaagg agacccaaat taagggtgaga gaatggacga 120  
taaggaacta ggcaaaagga tatggtatct gcggtagaac atatgaaaga agcagcaccg 180  
actgttttagc ataaacacag cactctgcag aaaagagaaa atgtaaagta tagagtgtgc 240  
ggcctgccaa atagtagaga agaaatcgat gaaagtgaag gcgagtaaaa gatgaggtat 300  
agagaatggc ggtcctaacg gtaaggatcc aaaggtagcg aagtaaatac acgtttgaaa 360  
ggcgtccagt atgaaaggag aaacgagtgt agcactgtct agtcgtccaa ctacgcgaaa 420  
cagcaataac tgtgaaaatg cagtaacta gcagtacgac ggaaagaacc cataattctt 480  
gactagat 488

<210> 1466  
 <211> 131  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-C6  
  
 <400> 1466  
  
 tgattggaac ggctctgggtt gtcacaccaa cttttctaca aagccgatga gagaagatgg 60  
 cggttacaag aagtatatatt tgccacgtga tggaaaagtt aaggcaaac ataagggaca 120  
 catcaatgca t 131

<210> 1467  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-C9  
  
 <400> 1467  
  
 gagtcgtata gacaacngtt cacagcngcg agtgtaccag ctcgttgcgg actgctgttg 60  
 gatcttcttc ttgtatgttt gccagcgtcc agcggcaagc agttgacatc agattgctgt 120  
 agaagttcat gtccgtaggg agtgtatgag acttagtgcg gcttgcatga cacattgagg 180  
 ttggtatata gccatttgag aagctgtatc agtgggacaa ggtccacttt gtcgtcagct 240  
 actttcttgt ccagatatct tgtcacagta acagacattt taaggagcac actgttttcc 300  
 gacagtcata atcattcgat gaaagcatcg tgattgacta tttttagggg aacgggtgaat 360  
 cttcatacag gagacacttc gctgattgaa tttgtgtcca ctgttgattt tcgcacgggc 420  
 atcagaacag cttg 434

<210> 1468  
 <211> 287  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-D10  
  
 <400> 1468

cggtggaaat aggaaacttt tcaaccagaa atcctctaga ctgagattcc tgaacaaata 60  
 aatcaattcc agcacgactt tcaccaagga cttcatagaa aaccccgttt ggtttcaaga 120  
 aaaactcaat ggtattcagt aacggcacca catgaaaatc acagtaagtg agttcacttc 180  
 ctaaaacaag gataaaagaa acaagttttc tgatataaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaaaaaa aaaaaaagaa agaaaaacaa caagaaagaa acaaaaca 287

<210> 1469  
 <211> 71  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-D11  
 <400> 1469

gagtcgtata acatagncnt gctgttggtg tgtgtgtctt ngnnngntct ttgtgggntt 60  
 cggggggccct t 71

<210> 1470  
 <211> 577  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-D12  
 <400> 1470

cacttggggtg cacgagggtgc tccgaaaaac aagtgggtggg aatattgttt ggaagactcc 60  
 ttgacgctca ttgcaagggt gcctcaagtc gcagccattg tgtatagaaa tacttattac 120  
 cagggaaagc aactggaagc agacttgaaa ctagatatgt ctgcaagggt gacaaagatg 180  
 atgggttttg agaatcccga gtttgatgag ttgatgagac tttatttgac tattcatgcc 240  
 gatcacgaag gtggaaatgt ttcagctcat tccgttcgtc tcgttggttc cgcactttca 300  
 gatcctttct tgtctttttc tgcaggaatg aacgggtctag ctggacctct acacgggttta 360  
 gccaatcaaa atgtacttac gtggttactg caagtaaagg aaaagttggg tgggtcaagct 420  
 cccacaaagg aaaacctaac aaagatttgt tgggatactc tcaactcagg caatgtgaat 480  
 cctgcctttg gacatgcagt tttgagaaga accgatcctc gttacatgtg ccaacgagag 540  
 tttgctttga aacatcttcc gagtgatgaa attttcc 577



<210> 1471  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-D4

<400> 1471

ctctcgtgcg atgatgaaaa cactccta atcgctcagtga atacacagaa gcagaacact 60  
 tttaacagag ctcaattttt tacagctggt ttactcaac' tttctaacta ttctacgatt 120  
 tgataaaatt gctgcagtaa cagaaacaag tgctgtggaa aagaatgcgc tcacggaaac 180  
 catttcggag ggtctgtcga agattctaac gagaaaagga tggaaccact gtgaaagcac 240  
 cacgaacgat actaaaccaa aaccatagtc ttctacaggt atgaagcacg ctgaacctct 300  
 atcggagac gatgaacaca ctgctgaagc ttgattgac aagttacaag cgcggcagca 360  
 acctgaacaa aagcgttgat tcacgatcgt gtgtctgtgc tttctggaaa ataacttggt 420

<210> 1472  
 <211> 540  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-D9

<400> 1472

gactgctctg agttgcctct ttctctcttt ccttatcgtt gccgcagttg cagccgacgt 60  
 agtttcagag gagagatggg gatatgctca gcaaacccea caacagcaac agtgccaaca 120  
 agtatgtaaa cagtatgcat actatcagag tccagtctgc acttccgtaa ccacacagag 180  
 cccatactgg acccaatgct cgaagactgt gcaaaccttt gtccaagcc agtgcagtac 240  
 ttatacccaa tctctacat ggacctattg cagcacctac accaccacta gcgtaccatc 300  
 tcaatgcagc aaggccgtga ctacctatac tcaaacctgc tgtgcttatg cncaacaaac 360  
 ttctatgca gtcagtaccg agcaatatgt tcaggaaact gtatctgctc aatatacttc 420  
 ttactacggc gaatcatcct ccagctatta ttaccgagca gctgtcctc agagatggta 480  
 tgacgaacaa tgcacctcat actgctgggt tccagtacag acctatgaaa cttatcaatg 540

<210> 1473  
 <211> 265  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-E1  
  
 <400> 1473  
  
 actgaccagt agatcagaga gtacacatgc aagtaggtaa agcgaacggg tgactaaaga 60  
 ggtgtgaaag agtgaagat catgaaagca cagaataatg taagaaatgg ttagagtaaa 120  
 aaccatacag gaagtaaaag cgggaatctg acaggaggaa agccacattg gcactgagaa 180  
 aatgtccaga caagagaagt cagcactggg gaacattggg caatgtacag ggaagtatga 240  
 ctactcatg aggagtggag taaac 265

<210> 1474  
 <211> 121  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-E11  
  
 <400> 1474  
  
 ggccgccctt tgttgttgtt ttttgttctt ttttttcttt tttgttgcgt ctttttgttt 60  
 ttttttttgt tttgttttgc tttctggcgt tggtccgtct ctttttgtcg ggtttcggcc 120  
 c 121

<210> 1475  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-E12  
  
 <400> 1475  
  
 gagtcgtata aaacaactgt gcgtgtgaac cctaacaatc ccatttctct ttctagtgtc 60  
 aaaactgcat cgctacaatt gcattttgtt tgtttgaatg acgtgataac tttatctttt 120  
 ctgtaccgac cacttgaatt ttcattgggtg aagaaatgtc gaaagccaca gttgagacgt 180  
 gccaagggt tcaactgtata tcacgcaacg agcattgtcg ttgtattggc attatgtatt 240

gcagctttca gtggatattt gttttatcga cgcacgaaac gacagtcaag actctctacg 300  
 acaaagggag actacaggcc ttttcgactg aacatgaata attttaacta ggcaagaatg 360  
 cggtttattc atttggttct gtatttggtg gatattcttc actcaaacac tctatataaa 420  
 attctctttt tggtg 435

<210> 1476  
 <211> 325  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-E3  
 <400> 1476

gcggacgcgt gggaaagagg cacatacggg aaagcagtag aagaagaaag agaaaggaaa 60  
 aaactgagta tcaggaagaa aagagggagt agatgacgaa agaaagatca aggaagtaag 120  
 agtaagagaa cgagtaatgt gaatgaaagc acgaaagtat ttgaagaaga gagtgtaaag 180  
 cgcgtacctt ttgcataatg tctcagcgag tgacagagga agcaaaacga aagacaacga 240  
 agtagccagg taagaccgga agctagttga tcttatgctg tccacgcgaa gtaaggctga 300  
 accagtatct gtggaaaaag atttg 325

<210> 1477  
 <211> 281  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-E5  
 <400> 1477

cggacgaatg ggcagacgcg tgggatcagg aagaaaagag ggagtagatg aggaaagaaa 60  
 gatcaaggaa gtaagagtaa gagaaggagt aatgtgaatg aaagcaggaa agtatttgaa 120  
 gaagagagtg taaagcgcgt accttttgca gagtgtcgca gcgagtgaaa gaggaagcac 180  
 aaagaaagaa aaagaagtag ccaggtaaga cgcaagcta gttgatctta tgctgtccaa 240  
 gcgaagtaag gctgaaccag tatctgtgga aaaagatttg g 281

<210> 1478  
 <211> 93  
 <212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-E6  
 <400> 1478  
 cttgttatca aatttcacgc tgcaggaat aaaagtctta gtccagtaaa agcttgccga 60  
 atcgtcatcc tttctactct tgcgttctg taa 93

<210> 1479  
 <211> 129  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-E7  
 <400> 1479  
 gcattctttg tcttagcact atgcgccgtt gcaattcaag cttctcctct agaggacact 60  
 ttgggtgcct taatgcgggg tggttatcaa tcgcaaagcc aagcaccaaa acctagctgt 120  
 tgcaagttg 129

<210> 1480  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-E8  
 <400> 1480  
 tgggcattgt gggactgaag cgaccttcta tgtgtatggt gcgcttcaat acgaagattc 60  
 aattaatcga cggttttcat ggtaacttg ctttacgcat tcctttgtgg gtagcagagt 120  
 tgacggttgt tgggtggagat acgacagcag tccggaaca gatacaggtc gaacaatggt 180  
 gagtttcttg aaagtacaaa tgcgtgtcc atgaagttgt ctaattgcgt gagaaaagac 240  
 aatgttgtgt tatgaagttt cgtaaatact tcatgtgtgt tgtgtgttt tgccacagaa 300  
 acgatgtttc gtccttggtg gcgtttgcat tgtccaataa atgacaccat ttgtgtatac 360  
 aaaac 365

<210> 1481  
 <211> 427  
 <212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-F1

<400> 1481

tcgttganat ataatgtcct ttcttttctt ttccacatag gtctaacc aaagtcacgga 60

aaaacatttt gaagcagacc tgtcgaattt tccaagccca ctagtctata gtgagacaag 120

tttatcattc ttcgtggcgt ccttactatc gaggatgagt tgctttgaat tgcaacgttc 180

tttctcctca gaacttgaac cggagcagac tgttgggtcca gaacaggaca cgacagtcac 240

tccttangaa atatgcttca gaacaatcta taagatggcg actcatctag gccctctgta 300

ttttgccaca agagtgtttg acgagattga atgggaacaa agttctattc acatagttgc 360

tgcactttgg tggcacncaa gcacagggac acagaacacg aaattttgct anttcagaaa 420

caagaat 427

<210> 1482

<211> 368

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-F10

<400> 1482

gcgtttcagg cagtcaaata cctatgatag gttttggtac ctggaaagcg gaacctggtg 60

ttgttggaca agcagttgat tgtgcaattc agactggata tcgccacatc gactgtgcag 120

cagcttattg taacgaggaa gagattggaa aagtgtttca aaaggtcttt tctagtggaa 180

aatgtaaaag agaggagttg tttgtcactt ccaagttatg gaatacttgt cacaagaagg 240

agcacgtgat tgctgcttgt aagcagactt taagtgactt gggactagaa tatctggatt 300

tgtatctcac gcattggccc atagcttttg aatatacggg acttcccata acaggagata 360

atgcatg 368

<210> 1483

<211> 508

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-F2

<400> 1483

gcgtggctac caacgaaatg cttcgaggag ctggaagcaa gctttgatcc ggaggtaccc 60

gaatgaggca actctttata ctgtctactg aatatatagg taggcttaga agcagcaaac 120

cagagaggaa agcgttaaag catgaaagaa aagaaatccg aaaaagaaga gaaaaaggta 180

agaaagagga ccgaatcagg gtaagaggta gaggagcaag aagagaagag agaattgctgg 240

gtggagtagc gaaacaagag aagggaagta aaaggtaaga aagaggaaag gttttacgaga 300

gaaggaagta gaaagaagag agtgtaaggc ggcgtcataa tagaaatccg aaaggagtag 360

aagaaaagag agagaagaaa gaacagaaga gaaaagccgt actgaagaac gacacaggta 420

ctcgaggaga aaggagaccc acataacgtg agagaatgga cgataacgaa ctacgcaaaa 480

ggatatggta tctgcggtag aacatatg 508

<210> 1484

<211> 364

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-F3

<400> 1484

ttcgtgtctt actccgtacc tgcaagaaac ttaccggctt tggcacgtaa cttttccaat 60

gtctgtctct cgatgagtgg tctgagaggg ggatgtttac gaaatgtgaa agttttcaac 120

cacaaacgac ctgcaagggtt gttatctacg acaatgacag gaggcgacca tgaaaggaga 180

gaacttagtc gtccatgctg tacgcttgat tccgctttcg acgaactttt agcttttgcg 240

caagatccct ggtcaatgtn tcgctctcca tggagtctgt cgcccataag tatggcagta 300

gacacgtgga tgcttcgtgt tgacttggtg gagaacgaag atggctttta tgcatacgtg 360

gaac 364

<210> 1485

<211> 277

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-F5

<400> 1485

aacgcgctccn gccacgcgtc cgctcctgta agcggttcgaa tagcgacagt ggaacgctct 60

actgttgttt tctttgattg ttgcagctat cgttgcacta ccgtggcatc gctttctanc 120

tcttgagatt cattttggag cagtggagat tggctgcttg attgtgtggg attgtaaaag 180

acggacgtta cttgtatgtc caacaacanc aacaacaaca agtcttcttc ttctaaagag 240

gactgtgggt cattgtggaa aaccttttca cgatgtg 277

<210> 1486

<211> 371

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-F6

<400> 1486

gagaggagtt catcatgata aagcccgacg gagtacacag acaactgac ggagagatca 60

tctctcggtt tgaacgcctt ggctacagtt tagccgccgc acaaagatg actccttcgg 120

tacaacttgc aagcagacta tgagacacga cggaaacatt ctttgaaca ttggtgaact 180

ttttgacctc gggtcctgtg ttgactggg tttgggaagg aaaacatatt gttgccacat 240

gcagaaagat gattggaaaa accaagccgc ttgattcaga accaggaacg atcagaggag 300

actttggact ggacgttggc agaaatatta ctcatggaag tgactccgtt gatactgcta 360

atccgtgaat c 371

<210> 1487

<211> 494

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-028-Q1-E1-F9

<400> 1487

tgagtcgtat aaacacagga gtatttactg ctgcagataa agctcgagca catatgaagg 60

gaggtgctaa gaaagtaatc atttctgctc cgtccaacga cgctcccatg tttgtgatgg 120

gcgtcaatga agacaaatat acaccggaga atactattgt atccaatgca tcctgtacta 180

ccaactgtct agtcctttg actaaagtta tcaatgataa atatggaatc ctggaagggt 240  
 tgatgacgac cgttcatgca actactgcc aaaaaagac agtagatgga cttcttcaca 300  
 aggattggag aggaggaaga ggaattttga ataacattat tccatcttct actggagcaa 360  
 gccaaactgt tggtaaagt attcctgaac tgaatggcaa gttgacgggt atggctttcc 420  
 gtgttccctg tccgatgtt tctgtcgtcg atgtcacttt ccgtttaagg acacaancca 480  
 cttatgacga tatc 494

<210> 1488  
 <211> 542  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-G10  
 <400> 1488

gagtcgtata tacaaaaata agctctatgt tgcataatgga cttacggagt caacagctcc 60  
 ttgcaactgcc gttcctcatg gagccgaagc cccggtagat cccaattatg gcgccttgtc 120  
 catcggaggt cgcacgtgca atgtcgattg tcgaggttgt ttctgcagag acaggaaagg 180  
 aggtgcctcc tggaaacgct ggagagttgt tgattaaagg acctcaagtt gtctcggggt 240  
 attggaataa accagaagaa acatcaaaag cgataaagaa tggttggctg catactggag 300  
 atgtcgcaat tatagattcc agaggttatt tgtatattgt ggaccgaatc aaagatatga 360  
 tcattgcttc tggatataaa gtgtatcctc gggaagtcga agatgttctt tatgaacaca 420  
 aggccgtaaa ggaagctgcc gttatatgtg tgcttgacct atatcgagga gagactgtca 480  
 aggcctttgt tgctctcaac gatggaacca gagtttcggc acaagaactc atagaatttt 540  
 gc 542

<210> 1489  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-G12  
 <400> 1489

aatgtcgtca gaggaggaac aagtggaaac ctctactttt gaactttcga gagaagccga 60



ggaagcagcg ataaaagcaa gaaacttaag ggaaaggatt gaaaagtttt tctcgaagag 120  
 ttaccagagc gagaggagag ataccgaaga agtgtcttca gacaacgatg gagtgactac 180  
 cttcgatgag tcctattgtt taagagacca acataacttg ttagaagcta tagaacagtt 240  
 agaaggtgct gcaagagctt tggaagaagt ttctttggag tcttcaaact atacgcagca 300  
 acatcttgaa gaaccaaagt atgttgccaa gcccgctgtg catttagagg aatctgtaaa 360  
 gagccagtct acaacataag aaagtgtgac gagtttggag atatctgact atgattgg 418

<210> 1490  
 <211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-G9  
 <400> 1490

ggtgtggcta gtttgaatag gacagccaat agcagatggg ttgacgttaa tgataaaaga 60  
 gggagtaaag ccaacaagag cagaggggaat gatgtataaa gcagggccag tagtaacatg 120  
 gatgttatcg gggctacgat ggagtgtagt accaatagga gacggaaagg tggtagtgga 180  
 tatagaagtg ggaataatag catggatgag tataggatca ttgggagtat atggagtagt 240  
 agtacgacga tggggaagca gttcgcagta cagcatagtg ggaggtttag gaacgtgagc 300  
 gcacatggta tcgtgctaata taggaatggg actactgatg ctatg 345

<210> 1491  
 <211> 460  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-H10  
 <400> 1491

cgcgctccgca ancatcaagt ggatcatccc acgttggttaa agatagactt gtctcaaggc 60  
 agcttttaaag tactccaaga ctgtgacaga gatttagaat gtgatcataa taccaagttt 120  
 cagttggaac ttattcagta tgggtctctt tcacctggtt tttggacgag agaaaatggt 180  
 ctgctcttct atttggagct cgtgtcaggt gtattcataa gggacactct ctaccttttc 240  
 tacaacaaag gtgaagaaca tttgtttgag agtttaatgc tgttggttga gacacaagtt 300

tcactgtatg cagacataaa aacaaactgg gagaaacgac actttatcgt ttgcctcatc 360  
 gtcaggctctt tgtgtgagga atatcaacga cagtattcag agctatgttc accgaatgaa 420  
 agcacganag atatgctact agtaaacaga atgtatcaaa 460

<210> 1492  
 <211> 496  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-H11  
 <400> 1492

ccacgcgtcg cacgcgaatc atatttcaga aactttccaa gcaaaaagct gcgaaaccac 60  
 gtcgcatact ttcgccaacg taggcaagag atgaaagtct tcagcaagca ctaggtcaga 120  
 tatccacggt tcgaatttac cagtatcgga taacaatagt ttggtttcta atagctgcac 180  
 acgctcttgg agtttctgaa ccttgtgcat tatttcttca agtggttcgga ctttggaacg 240  
 agttggcact actgctttct ctccattgga taccagttga agaagcatat tcagatgttc 300  
 attgagtttt ttccgacttc tttttgttgc aagattatgt tttgctcgtc tcgtatctgt 360  
 gaaggaagct tgttgggaca acatcaacgg aaatggaaga aagaatccgt tggttaattca 420  
 actgattttt ggatggacga cagcacattt gaaagcagtt gctctgtaat atttgtcttt 480  
 gagctagaag aaaaca 496

<210> 1493  
 <211> 513  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-H4  
 <400> 1493

ggcacgacag accgtcagct aagaagatat actcttatgt aagagaatca aaatccagag 60  
 aatatttgga gctaaacgat tcgttgcagc agccagtgga ttcattctgt cncgacaagt 120  
 ggctgtttat tgcaacccca ctgttggaag ttgcttgtag tgatgggcag cgaattgaca 180  
 tgattccttt gaacaaagat ataaaggaat tgtttttctc tacttttaaag aagaactttg 240

agtcgaacga agcgtcatgg gagtgcactg tagttgacac cgcagttgct gtttttatcc 300  
 agtattatga acagtgcgtg gaacagtact atctagcaag caaagattat gagctacctg 360  
 gttattccaa agtaaaacag attcggcgta tgattgaaga tgttctacaa atagagaagg 420  
 aacttgcgaa tatgcgtcag acccttggtg gcgttcggag tcgtctttgt acctttgaag 480  
 ctgcatcacg cagcgaaact cgtgtgcaat ggt 513

<210> 1494  
 <211> 107  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-H5  
 <400> 1494

gatcagagag taacacatgc aagtaggtaa agcgaacggg tgagtaaaga ggtgtgaaag 60  
 agtgaagaa catgaaagca cagaagaatg taagaaatgg ttagagt 107

<210> 1495  
 <211> 282  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-H7  
 <400> 1495

tttgcgaatc tcattcctgg tcacgggtgga gtaacggatc gaatggattg ccaattggtg 60  
 atggggttat ttacttatgt ctatttgatc aattttgtgc ttcgaaatac tcctgatggt 120  
 ggtaatttga tgagtttagt gttggagttg agtactgcgg gacagctgga acttttacag 180  
 gaactttatc aactcttacg tgagaaatcc atacaagcgg atgtattgca gcaggtgatg 240  
 aatgaatcga gtacttagat agtctcaacg gcgtgatgtg ta 282

<210> 1496  
 <211> 223  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-028-Q1-E1-H8  
 <400> 1496

gtccgnccac gcgtccgaaa caagttcatt tgtccttgtc atggttctca gtatgataga 60  
 actggcaaag tagtgcgcg tctgctcnc ctttcattgg ctttagctca cgtagatgaa 120  
 gacgaagatg gaaatattct tttcaaaccg tggaaagaaa cagatttttag aaccactagc 180  
 gatccttggg ggaaataata acacttgggg ttcttcgtga cac 223

<210> 1497  
 <211> 552  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-028-Q1-E1-H9  
 <400> 1497

ggaagcaatg tggccgatgg tgctttccca tacgagaaga ctgcttccaa gaggctttta 60  
 tcatactgga atattaaaac agacaaaatt tatcaaccaa gaacagtcct caaccacctc 120  
 tagtatacct agtgccgagg aactcctct ccatatcgac gaaagctgtg tccagcgctt 180  
 gagatatgtt agtagccaaa ggggaggaaa acctgttgct ttaagagtag cagtggatag 240  
 tggaggatgt tcaggctttc aatatacttt tgagttgacc gaggaaaagc cagcagagaa 300  
 cgaaaccgtg gtggaaagaa acggttgcaa agtatatgtg gacgatattt ctctcccgtc 360  
 tttaaaggga agtacggttg cttttgtgga agaattgatg agtagttctt tccgagtgtc 420  
 gaacaaccct gggtcgggaag gaggatgtag ttgtggaacg tcgttttctc cgaaaatgtc 480  
 atgatggtac catttgggtg tgtgtgtgta tgtatgcgat agaatatata tgaggcaaga 540  
 acgaagaaac tg 552

<210> 1498  
 <211> 532  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-A1  
 <400> 1498

cggaattccg gaatcaccac gcgtcggcgg acgcgtggga tgatacacgc atcatcgttg 60  
 cacaagtgga tgcagataaa gacaaagtat tatctcaaca gtttgaaatc caaggttattc 120  
 ctactatcaa gttgttatta cctcgttcca aaagtggaaa gaagaatgtc tccgatgcgg 180

tagtggaata cactggggaa cgtactgctg ctgggtctcgt cgcgttttctt caaaaccata 240  
ccaacatttc catcgcatcg gcaccggtag aaagttttgt ggtggagttg accgatgaga 300  
atttcgatcg agtcgtattg gatccgtata gtcatgtggt ggtagaattt tatgctcctt 360  
ggtgtagtca ttgtaagatg ttgagaccgc agtacgaaaa agttgcaaag acttatcgcc 420  
atgtgaaagg actggtgaat gcagctatcg atgccgataa atgtggaaag attgcagaaa 480  
agtatcgaat cactggggtt cctacattga aataattttc agctgggaaa ga 532

<210> 1499  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-A11

<400> 1499  
aggaggattc tgcagtaaac ataaagaaat ggctagcaag tttcgaatcc tcccctttgg 60  
tgatcacgtc ttatgaaata gtaagtttag tacattcaca ttcctattct tgttgaactg 120  
ttggaaagat tcgtagtgat gtagaatatt ttcaacgata tcattggagt tatttggttt 180  
tggacgaagg acacgttatt cgaaatcatc attccaaaac cgcaatagcc gtaagaagcc 240  
tcacagcaga gcatagactt atattatctg gtactccagt acaaaattca gtcaaggatt 300  
tgtggtctct ttttgacttt ttgattcctg gttttttggg cgatgaagct tcctttcaag 360  
aacgcttcgt acgacctata ctcaagggaag agagtttatc ggcggaacaa aaggacagag 420  
aacaag 426

<210> 1500  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-A2

<400> 1500  
ggatgagtac cgcaacatcg ttgcacaagt ggatgcagat actgacaagg tattatctca 60  
acagtttgaa atccaatgtt atcctactat caagttgtta ttacctcggt ccaaaagtgg 120  
aaagaagaat gtctccgatg cggtagtgga atacactggg gaacgtactg ctgctggtct 180

cgtcgcgttg cttcagaacc atactaacat ttccatcgca ttggcaccgg tagaaagttt 240  
 tgtggtggac ttgaccgatg agaatttcga tcgagtcgta ttggattcgt atactcatgt 300  
 gttggtagaa ttttatgctc cttggtgtaa tcaactgtcag atgttgagac cgcagtacga 360  
 caaagttgca aagacgtatc gccatgtgac aggagtgggg attgcagcta t 411

<210> 1501  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-029-Q1-E1-A3  
 <400> 1501

gccatgtaca tagtagccaa acgtctaaag tccaagtatg acattcaaga tgaaagacgt 60  
 agcttgatatg aggcaatcaa tctttggtgt agacaaggag tgggtgacaa gtctttttgt 120  
 ggtggtgagc aacctggttt agcagatttg gttatgtttg gagtcttgcg ttcttttaaaa 180  
 tattatgacg tgttcgaaga tattcagacc aatacggata tgcatttatg gtatcataga 240  
 atgcacgctt tggttggtga ttcttcaatg atnacaatag aagaatgaac agcaagtcgt 300  
 tccttgggaa aatatggacc tatattgcta tcaaagtaag agaagactgt tcagatgcct 360  
 cgtctaattc cccataaatc aatatgcaat ctgtgagaat aacgaaatcc gtgtctaata 420  
 cattccgttg ct 432

<210> 1502  
 <211> 505  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-A4  
 <400> 1502

ccgggacgac aacgcgtcgg actttgccaa aattttttta tacaaagttt gcttctcggc 60  
 aaccaacctc ctccgacaa agaatttgaa gatgttttcc tcgctatcca gttacagtat 120  
 aagtgttctc atcctggcct gaacataaga agcgatagcc agtgaaaaag gcagaagcaa 180  
 agatacgaac taagactgaa ctactcgaat aagatttgca ctgaaagttg gtcaagtttc 240

ttcgcaccaa tgtttcgtcg ttctactagc aaagtttgcc gaggtcaaag taagttgaaa 300  
 agcacaacca caagagtagc gggaactagt cgaaacggaa gacagcttgt ctttatggct 360  
 tctttcttcaa tttttccttt tcttcttgag acagaagtct tccaaaattc cctctttcct 420  
 ttctctcact atatctatcc actaaaaagg aagaatgggc tcttaacatc aacgagaact 480  
 tcaccaaadc cttcactaca tcgac 505

<210> 1503  
 <211> 120  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-A5  
 <400> 1503

gcgggaagct gcgaggagga cagccacatc tggacactga gcatagggtcc aaacaagata 60  
 agtcagcagt ggggaagatt gggcaatgta catggaagta tcacccagta atgacgagtg 120

<210> 1504  
 <211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-A6  
 <400> 1504

cggattaccg gatcaccacg cgtcggccca cgcgtccgaa aggatttggga gaatattcga 60  
 ggcagcagaa tcgaagctgg attcttccag taagacatgg agaagttcgc aaaagagtat 120  
 gatgaagaca tgtaacatca ggtaagtata tacaggttaag tataaggtttt ggatttggaa 180  
 gaaacaaggt acttcaagta gtcttctttg ttgtgtatag gatagagcat aacttctaaa 240  
 cttattttatt tgacttcaat tgaattataa taaaacattt ttgactaat cc 292

<210> 1505  
 <211> 592  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-A7  
 <400> 1505

accacgcgtg cgactaaata aggctctcga tagagatgag gaagttatTT tagcttatga 60  
gatgaatgga gagaagctgc ccagggatca tggatatacct ttacgagttg ttgttctctgg 120  
ctatgttgga gctcgaagtg tgaaatggct aactcgaatt atctgtaaga tggagtcttc 180  
cgatggatat tttatgacga aagattacaa atatctgcca tctaatatgg acttcaataa 240  
tgtggattgg agctctactc ctcttatcat gaacttgtct gttcagtgtg caatatgtga 300  
tccacttcca gatacaaagt tgtctccagg cccttataaa atccgaggat atgcactaac 360  
aggaaaagga gaacatatta tgagagtaga cgtatctatt aataactcca aaaactggca 420  
actggccact ttgattcaag gagacgaagt tgcaagcaaa gaacttccga aaagggtcac 480  
ttctggaatg aacggatggg cgtggcggtt acgggaattg gtcgtctata tgaagcgacc 540  
actggttcta cagctagaac gatagattct gcctgtaata ctcaacctga gc 592

<210> 1506  
<211> 283  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-A9  
<400> 1506

aattgaaagg agggctcgacg agctcagctt gaagaacaaa gaacttgcgt ggggttggac 60  
gttatttatg aacttggact ctattgacac aggaattaat gtcctttttg acccgtttgc 120  
agacgcctca cgtggagagg acgcagcagt aaccanaaat atagtgcata ttcgcttgca 180  
acaaaaaac ggccgcaagt gcttgacgac cattaaaggg cttgacacaa aattggattt 240  
gaataaaatt acaaaggcct tcaaaaagga ttttggttcc aac 283

<210> 1507  
<211> 153  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-B1  
<400> 1507

aaaatgtata aattcgctca aataaaaaat ctaatgaaca taataaaaaa atctgtgata 60  
caacagaaag ataaagagaa agaagttaca aagataaaac aatgtaggct caaaaatcaa 120



gtaagaaaaa acaaaaaaagc gcccaagtca cta

153

<210> 1508

<211> 492

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-B2

<400> 1508

cagtacgcgc ggcattccgg gatcaccacg cgtccgcgga cgcgtggggg aagatgggag 60  
actcagacta ttcattttct cttacgacct ttagtcctag tggcaagttg gttcaaatag 120  
aatatgcgtt gaacgctgtt gctgccggtg ctacttctct tgggattcga gcgaaaaatg 180  
gggtcgtgat cgcgacggag aaacgtatgc cgtccattct tatggaaagt catactttag 240  
aaaagatatc ttttatttcg gaaactacag gaatgggtgta ttcgggtatg ggtcctgatt 300  
caagagtatt attgagaaag gtcgaaaagt ttgctcaaag ttactatcaa acctataaag 360  
agcccatacc agtcgttcaa cttgtacgag aaacagcttt cgttatgcaa gaattcaccc 420  
aatctggtgg cgtaaggcct tttggtgtta gtttgttgat agctggttgc gatgaacaag 480  
gacgacacct gt 492

<210> 1509

<211> 375

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-B5

<400> 1509

cggatatccg gtatcgacca cgcgtcgggc actattagaa actcgaataa tggatgcatt 60  
gactcaagtt tctaagactt ccgactactc gagacttgca agtctccgtg tctatcgcca 120  
aaaacttttg gatttgaagg ctattgctga ccagatggat gccttgctgg aagaattttt 180  
tgattccgat tttgtcgaag aagctttgtt tagagaggac aatgggagca aggatattgg 240  
tccttgtggt agtttggatg acctgaaata tattttcgaa cttatcttc agagtttggg 300  
tttacctaga ctatctgtgg tagttttttg acaggcacta caaatgtgga acgtggcttc 360  
atgctcggat ttgac 375

<210> 1510  
 <211> 443  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-B7  
 <400> 1510

ccacgcgtgc gcacagaata caacactcgt atgctcctac aactgtgcaa tcctcctcct 60  
 ccactactac tacgacaacc agtggttagag cctgtgctac aacaaggaat ccacgtatga 120  
 atattcaacg aagaatattg gaagctggaa gaaggctact tcataatgag tcgggtccta 180  
 gatattcgac tcgtttgaac tctcggagtc tccacaatac attggcaacc acaagaagaa 240  
 atcgtggacg gaaccatcga aatactacaa gtaataatag tgtggatggc aataatagtt 300  
 atcctagtgg tggtgacttt tggatcgggtg gtggttcttc ctgctcttct cgtcattctt 360  
 tgaatgcgtg gattgattat gttgctcaag tcaatccttg gttactttta tcttttcattg 420  
 atggcgactt tacagcggat gac 443

<210> 1511  
 <211> 285  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-B8  
 <400> 1511

cagcgggaca gagaaaataa attttttaag acagaagggc ttgacggatg aagagataaa 60  
 ggaagcgttt cacagagctg gacagatata tccagaagat agtttttctg gaaatgtgga 120  
 acgagagaag tggaattctc ctccataggc aacagcaaca ccggataatt taccacagac 180  
 tgccgtacga gacgagagtg tctccaatca acaggctgcg cgagcttcta cgggcaaagt 240  
 atcatcaaac agtgttcctt cgaatccaac gacagtgaca caacc 285

<210> 1512  
 <211> 476  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-C4

<400> 1512

cgtcggtgtg ttcgtgtgat tggttggtaa aaaggcgctt attttcaaag agtccaacct 60  
attgagaaaa catgaatccg gaatatgact accttttcaa gttgttgctg ataggcgact 120  
ctggagtggg aaagtcttgc ctcttggtgc gttttgccga cgacacttac aacgagagtt 180  
atatatcgac gattggagta gacttttaaaa ttcgcacgat agaactggat ggaaagaccg 240  
tcaagcttca aatatgggat accgctggac aagaacgttt ccgcactatc acttcttcat 300  
actatcgagg tgcacacggc atcattattg tgtatgacgt taccgaccag gaatcgttca 360  
acaatgtcaa gacctggttg cacgaaattg atagatatgc gaatgagagt gtgaacacac 420  
ttgtggttgg caacacgaat gacttgacga cgaaaaaagg gtgtagacac tgcaac 476

<210> 1513

<211> 338

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-029-Q1-E1-C6

<400> 1513

cacaacaatc acgacgctgt ggaagtctga acgaacgaga gaagtggaag atgagatggc 60  
tgaggtgtgg ctattcaccg acgcanatgt tgagttgccg gancataaaa aagacgctga 120  
atgctgctat tcatttctga actanggata naaataatgc aagtattcta naatttacan 180  
cattcttgca cgacaatact gctaaggtat ttactgaac tcgccagaca tttcttgggg 240  
ctgaacatca aatactaatt gaggtatgta ataagttttg ctgcaaacgg tgtagtccca 300  
acagacacat ttgggttatt tatttcgttg ttacatt 338

<210> 1514

<211> 374

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-C8

<400> 1514

ggataccgga atcgaccacg cgtccgacct tacctctcca agaagagtgt tgcacggctg 60

tcgaaagaac gtgctgtgaa gtgagagaac gtacgagaaa gccaaagtgag gaaaagaagg 120  
caagtagagg gcggccccgag aaaggagagg gcgtaagacg tgatacagag taggaagaaa 180  
agagaagaga gctagaaagg aggtaaaaga agagtaaaag gactagaaga ggtacggaat 240  
tcacgaggaa ggagcgtgaa ggaaggagga atcccaagta atcgaggaag aaaaagcttc 300  
ggtgaaagcg tgaacggatt ttgtacacac tgcccgtcaa gttctggaag tgtgctagga 360  
ataagcagga gaag 374

<210> 1515  
<211> 436  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-C9  
<400> 1515

gatacatcac ctaaagaaaa caaaagagag aatatataaa tgggtcgagt gagaacgaaa 60  
acagtaaaaa agtcggccccg agtgatcatc gaaaaatact attccaagct gactctggac 120  
tttcaaacga acaaaagaat atgcatgaa gtagcactca ttccttccaa acgactgcgc 180  
aataagattg cagggttttgt aacgcacttg atgaaacgta tccaaaaagg acctgttcgt 240  
ggaatatctc ttaaactaca agaagaagag cgtgaaagaa gaatggactt tgttccagaa 300  
gtttcagcta tagatgtggg tgaagtcaag atcgatccag tgaccaaaaa tatgttggaa 360  
tcgttggggt ataaaaatct tcctaattgtg gtgggtggaa ctggagtaga acccaagaaa 420  
tttgcaccaa gaggct 436

<210> 1516  
<211> 453  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-D10  
<400> 1516

gtccaccac ccgtcgcac acgcgaccgc ccacgcgtcc gtgcacaaat ccacggttcg 60  
tctcgagggc ttatcttgga ccagcaacgt ggacatcttc cctgttgtcg gatatgccta 120  
actcaggacg gttcaacaaa gtggtgtcga ataaaatata ttttccgact tgtatatgca 180

aggtttgcaa aaagtgtgaa gacagtcaca gatagtcgtc gctttcctcc aataaccccc 240  
 acaaatacaa caagtaaata ggcagttcac aacagcaaga ggaataacgc agtaattctc 300  
 ctgttccagc acagttgaat tactgctcat tcttaaatac ttgtacttgt attttgagac 360  
 ggtgttttaa gcgaagctcg ttacttgcgt tccccttcgt cctttgcaac gtaaaatgtc 420  
 ccaggaatat gaaaatttcc gttcatgttg ctc 453

<210> 1517  
 <211> 489  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-029-Q1-E1-D4  
 <400> 1517

gcgtccgccc ttgacggttg cagagaatac atanatagca nagaagcagt agatatgaag 60  
 aaactttcag aagccgcaac cagtattgcc gaaggagata ttctcaatga tttggttcgt 120  
 cgtcaacaag cttggaattt gatgctgtt caagcaatat tttctggaat ctatcctgca 180  
 caaatacttc aaggaccctt tgctgacatg atacattttc cttcgtgggtt aggcaagaat 240  
 tccactcgtt ccaaaaacaa acgtctagct ttggagcttc aaatgcgaat gagtactaac 300  
 atatcgggct ctttcaatgc ctttttgatg gaatatcttc catgtctaca aaccatatta 360  
 tcggctcctc ttgtgaatag caaagaaggt gtttcggaag tgatagataa gcttgatgca 420  
 tattacctgt ccaaagatga ctgggacact ttgatgtcgt tgagtctaga gaaaaatgaa 480  
 atggacaaa 489

<210> 1518  
 <211> 459  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-D5  
 <400> 1518

ccacgcgtcg gacataaatg ccaagttcac acagctcgga ccaaactcttg tgcagctttt 60  
 accaacattt tgctaacttc ggttgatcct ttaggaacaa taccaagctt ctcaagggcg 120  
 gaaactgtta tatgtgtgaa ataatgtcca actcgagtat gacgaaaacc tttgatggag 180

aaacctgctt tcaacggata ataccaaggg agctctgagt attttgaggc atcatagtag 240  
 tcgagaactt caaaacctgc ttctttttaa ctttgataa cttgatcgaa agttgccgtg 300  
 tctggcagcc catttccaac ctcgactgca aattttgcct cacgatgttc cttattttga 360  
 gggtcatact tatcggttac gcaccattca taccctcgca agcagcatcc atgtttaatt 420  
 actctataag cctctgaata aacttttgtc ttttcata 459

<210> 1519  
 <211> 589  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-029-Q1-E1-D7

<400> 1519  
 ggataccgga tcgaccacgc gtcgggagga ttcgaggaga gagacagaca gatggccaac 60  
 gctgggtcaag atggccttgt gcaagtcaac aaacatagaa aagtaaagag attgcaagaa 120  
 gataatatatt tgaatagagc actatcacia ccaggagatg tatttctgtg cttttgcaac 180  
 atccagttgt tggatgaatgc agaaagagct attataggaa atattacttg tccagaaagt 240  
 atcgaattgt gtcgtctatt agctggacat atagcgggtt gggttcgatga acatttggat 300  
 gactttcggt tggaagctat cttgggagca ctattgtgta cttgttattg tgagtggag 360  
 cgttttgaag gagaattggg ggtacaagaa tggaatgaat tggagaagat atcttcctta 420  
 gatacttgga agcttgtgct tggatcaaga caaagagtgg ataatatgtt acagcgagta 480  
 cacaagctga cgagcatctt gtccttttta tactcgggag aacaaccgag agtggactat 540  
 atcggttctg aggatgaagc angttgggac aagttgtgga gaggaaaac 589

<210> 1520  
 <211> 622  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-D8

<400> 1520  
 cggaattacc ggatcaccac gcgtcgggct ctgtgtgggt ttcttcattg aattctgaag 60

gctgccgtaa cttacagcag tctttgttta tcatggagag cgagacagtg aaaaatgata 120  
agctagctaa actacaaaga atggctgtga atgttcgaac tgggtgggaaa ggtaccgttc 180  
gaaggaagaa gaaggcagtt cacaagggca caccgacgga tgataaacga ctgcaaagca 240  
ctttgaagcg gcttgggttta aaccaaatac ctggaatcga ggaggtcaat attttcaaag 300  
acaacgggca ggtgatcaac ttactaccc ccaaagttca agcagccatc ggagcaaaca 360  
cttatgtggt atcaggccaa ggggaaacaa agtcccttca ggagctgctt ccaaagtac 420  
tcaatcagtt gggttcggac aatctagctc aaatgcgctc tcttatggaa agtctcagta 480  
caacagacga aaagggcgaa ggcagagaga atggagacaa ttccaaagaa gacgatgata 540  
ttccagagct tgtggagaac aaaacctttg accagttgga agaggagaag aatgtgaaag 600  
aaacagatgt ttctgcgagc tg 622

<210> 1521  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-D9  
<400> 1521

tccacccgcg cgtccggaag gtttatgcaa aaaaattact ttacattcg acaacaagtg 60  
gatgaaatga cggaaaaagc gaaacaagct cctcttcgcg cgggtgaaga actttatcgt 120  
gacatttatg tggaaggaat tgaacatggt cgtgggtactt tgggtgaacaa tggacttggt 180  
aattacttgg cataaataat tcccgatagt ttctctatct gatatatata tctccatggt 240  
gttgttgaat gtaaaagtaa ttttagtgca agtttctgca aaaaaaaaaa aaaaaaaaaa 300  
aaaaaaaaaa aaaaaaaaaa aaacacaatt ttttttaaca aaaaacacaa aacacaaaaa 360  
aaaaaaaaag gggggccccc cttaaag 386

<210> 1522  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-E11  
<400> 1522

cacacgcgtc cgatacttgc ttggtcaaac atactcgaac aactttttatc gaacaggggtg 60  
gagatggcat cccttggttc ttctgagatt gttgcatatg taaagactgg tgagcccatg 120  
gataagtcag gtgcttacgg tattcaaggc atangcgggtt ctcttgtaaa ggtacgatgt 180  
tgaggttggtt tatattcatt atttattttg atgaacaacc agagtgttca tggctgttat 240  
ttcaatgtca tgggattgcc tatgcatcat ttagccaaac aactagcgca actgtgtcaa 300  
cgagaagagt tttgatagta gtgacttgag ccaactttta gtttcattga ctagttttga 360  
tgtatcttgg catttttagcg ttaat 385

<210> 1523  
<211> 549  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-E2  
<400> 1523

cggacctcgg ggatcaccac gcgtccggcc gcgtttccag ttggtttcac aagtatcgga 60  
tgaagagttg ccaaaagtat atgcagcttc caactctttt gtttttagcca caagaggcga 120  
agggtgggca cggcctatta tggaagctat attttatgaa cttccagtca ttgccaccaa 180  
ctggagtggg cataccgaat attttgggga agatacgggc ttcccagtta gagtagaacg 240  
tcttgaaaag tattctggaa acgaccaga aatgaaacct tatgtaggat tacatttggc 300  
agttccttct atttctgact ttaggttgaa aatgagacaa gttatgtag atgtagatac 360  
tgttcgttct cgagtactca aagcaaaacg agttataatg aataggtaca atcctgaagt 420  
tgttggggat gaaatattga atcagtttat tcgaattaag aagatgctac tcgcagggtc 480  
tgtgcaaaag gatcactgag cctgagactt gctanggacg accacctctc gttgccttca 540  
tttatatat 549

<210> 1524  
<211> 569  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-E4



<400> 1524

ccgggacgac caccgcgcgn gccacgcgtc ngctcgagtc gttcctttgt tagttgtgag 60  
agattggact atgacagtgg catggatccc ttcaatttgt tgcataatgag tctgtaacgt 120  
tggaatatat aaatgatagt tgaccaaagt tgaagtccg agcttcaaaa ggattgaaaa 180  
ctttaaaccc tgtaagttac actttggcaa actaaaactt tatgctactt agcanacgaa 240  
atcctattct aagtatccac acttatgtcc accacgggtc agactctttg cggaaatctt 300  
ttccgttaaa gtcttgaaaa caatgtttcc tcccatccac agagccaagg gaagcagaga 360  
gctggacctc ggactacgtg gctctactgt cataatgaga gccataacaa taacagataa 420  
acggactctc tcttgcttcc caaggaacga ctgtacgaaa gcagctgtcc attctgaaat 480  
ataaccaagt aatatgggtt cttcttgcca ccttgagcca atttccgatt tgtaggaatc 540  
cttgccttaa tataaaatca tccttcttg 569

<210> 1525

<211> 578

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-E7

<400> 1525

ggaataccgg aatcaccacg cgtccggacg acgaccaaga tcctagagcc tccttgctta 60  
tgcagccggt atctgacaaa tacttgcaaa agagttcaga cgaaatagtt agtttgaatg 120  
gagttgacgt ccataaagaa attgaggaac gactagatag ggctttcaac tacgaactta 180  
gacttttaag tggtaatgcc aacagagctt tatcgttgga aatatctcgc ttacttaata 240  
ttccactgtt ggacgctgaa gtcaagcgtt tttcggatgg agaaatattc gtttctatca 300  
aagaaaatgt tcgtggaaaa gatgtattca tcatccagcc aacttctcct cctgtgaatg 360  
acagtctcat ggagctttta attatgatcg acaccctgaa gagagcgtct gccaaacgta 420  
tcaccgcggt cattccttat ttcggatatg cgagacagga taggaaggca gctccaaggg 480  
ttcctattac ggcgagactg gttgctgact tgatatccac ggctggtgcc tctcgagtgt 540  
tggcgttgga acttcatgct ggacagatac aaggattt 578

<210> 1526  
<211> 131  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-E8

<400> 1526

ggattaccgg atcgaccacg cgtgcgacat gttatcatcc tcataatggt tcgaagtctt 60  
atgtgagtct ttctacgaga cctcctgttt ctccatctat cttctgtgc ggggagtgag 120  
aacggtcaac c 131

<210> 1527  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-F1

<400> 1527

ggaattccgg gacgaccacg cgtcggccca cgcgtctgga aattagcggt tggtttgtaa 60  
gtcacgagtg tatttggcac ggtgttcac tcgtccagga gaaaattcat ctgtcgcgtg 120  
getaattgaa ttcatttaga agtagataga atatcgcaac atgttgattt atgagaatga 180  
attctaccgc aatcagtctt agtctcctct catccaaaac tttcgtttag aagtcacata 240  
gttgtacccg aacgaaagtg aaatcatgct tgtcctagtt cgcttgtttg gaataactca 300  
agaaacaatt gcaccagata aaactctcta atagaaatac ctttatattg caacagaatt 360  
ccaatgaaca atacacctag tgaagcg 387

<210> 1528  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-F11

<400> 1528

caaacgcgac cgcccacgcg tccgcttcaa gtgcggtccg cagccttcct aatgtcaact 60  
gcatcaacga aacaagaaaa cgaagagcca caagaagaac agaaaaacga gcaagaagat 120  
gagaaaacaa ctttgaaga agactattct gttccgttca aacctctagt aaccttggac 180

gaagtgcgaag tgacgacggg agaagaagac gaagaggtgt tgtacaagaa tcgagccaaa 240  
 ctgtttcgat ttgataaaca aggttcacag tggaaggaga ggggtactgg agacataaag 300  
 atattgcaac acaaggaaac caagaaaatt cgtttgctta tgcggagaga aaaaactttg 360  
 aaaatttgcc tgaatcatta ggtcaatcct agtattcagc tggaagaaaa tgtc 414

<210> 1529  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-F12  
 <400> 1529

gatttctgga cctgggttgtt tgcattgcctt ggctggattg gctagtgcaa cagtaaattg 60  
 ctttccaatg attttactaa gtggagctgc agaaaactcg caaatagatc gtggtgcatt 120  
 ccaagagtgt gatcaacttc gtgcagcagt tccacatgca aaacaagtat ttcgagttga 180  
 cgatatcaca gattctgcga gatttctttg tcgagcattt catgtggctc gaagtggccg 240  
 tccaggaggt gtatacatcg aatttccttc caatgtactt catcaaaaac tggaacgaga 300  
 gaaagtggag gaattgttgt ccttttagcaa agagtttata tcttctctc ggaatatgcc 360  
 agttccgact gcaacagtcg ttcaacaaac tgttcagttt ctaagaaatg ccgaaagacc 420  
 tcttggtgt 429

<210> 1530  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-F3  
 <400> 1530

cggttccgg gacgaccatg cgtcggctca gatcaagata ctcttaagca gagcttctgt 60  
 tgctgaaact tttcttggtg tagatgtggg gtctctctgc gtcggtttag ccattgcaca 120  
 acatggaagt agggtagctt ttccgttgctc ttggtttaaa cggacggggc cggttggtga 180  
 cgcaagaact gttcgtcaga tttttattga caacgggtgt caagtttgtg tttttgggta 240  
 tccccacaca ctttctggtg gtgaaggcga aaattgccgt aacgttgcac tgtttgtgaa 300

aggtttgcag gaaaacggtg cgttttttta cagcgaagtt catagctgtt tattctggga 360  
 cgaaagattc tctacgcaag tggcaaagcg agttgtttta cggagtaaga cgaattggag 420  
 agagttacga gatcaccaaa ggacagaatg aaaa 454

<210> 1531  
 <211> 234  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-F4  
 <400> 1531

agcttgtaga ggaatatgct gccaaacaaag acttggttctt tgaaaactat gcacaggcac 60  
 ataagaaact tagcgagttg ggagcagttt gggtaaata agcgtcgttg tggttgttgt 120  
 ttttgtggtg gtgctgaaaa taaaaaaagt cgttgttgtg cttgtctaaa aaaaaaaaaa 180  
 aaaattaacg tatgcaaaca aagtacataa gagaagataa gcaggatcat tttc 234

<210> 1532  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-F5  
 <400> 1532

aattctccaa ctgttatcgt agaaaaaaga ctctaggttg ggttgaacct tttctgtgga 60  
 gatggaacaa acaacttgct ataaataagc agagaagagc tttggggtcg aataacgtga 120  
 gcattctatt tagtcttgcg gtgttggaag atagtcctgg gtcgtcttct gtttctacca 180  
 gcaacgacgt tcataacggc aaagaaaaca cactgagtct agaacagctt caactgaata 240  
 aggaatatga agctgtagta acaaaaagtaa cagactatgg cgcctttgta gacatacgtg 300  
 cagtaaagta cggcctactg catgtttctc atatgagcga ctcatttctc agagatccct 360  
 cttaaatecg ccacgt 376

<210> 1533  
 <211> 585  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-F6

<400> 1533

aggctcggaa taccgggatac accacgcgtc cggttgttgt tgggtcgtca cgttttggtg 60  
acaaggaaag ataatggtc gtcaaacag aaacctgtag tttttcaggt ttccgcatct 120  
accccgaaa aggcactcga tttgtgcgcg gggatggcaa actcctcatc tttagtaacc 180  
gcaagtgcaa atcctacttt catatgcgta ggagaccggc agagttgaat tggactcagt 240  
tgtatcgaag aatgcacaaa aaaggacagc aagaggagac acagaagcga cgtcgtacgc 300  
gcaaagttgc tgctgtaccg aaaccggttg aaggcgcgtc gttggaagtg atcaaagcaa 360  
agagaacgca acgcccggaa gtccgaaaaa ctgccaaaga agcagcgttg aaggaaatca 420  
aacaacgcca agctgctgcg gctggaaaaa gaaaaggttg aagaagagat ggcacggcag 480  
caacgtccaa aagaacttct gcaccacctt cgaccagtga gaaaaaacct gctcaagtcg 540  
ttgtaggttc acganagaga taaagaagag agtatggcac tcgtc 585

<210> 1534

<211> 601

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-F7

<400> 1534

aggctcggaa tatccggatac accacgcgtc cgcgcgggcaa taaagccacg tttggttcat 60  
ttgagtgact ttgtatccga ggactccgat gctatagcgc ctacactaaa aaaagctgca 120  
aggaatattc cacattgtag ttttaaggagt gcataatata tcataggagg ttactgtttg 180  
gttctgtctt gcaaagctaa atggagcagt tacaggtgct actcctactc actcctagtt 240  
ttacgtctgt ctatattgaa ttttcaatcg ttgaagttaa ctttgatcca taaaccacta 300  
atggaaatct tagttggttg ttctgctggt ttagaatgcc tcctaacaat atgcactgtc 360  
aagatgtata ccataaaatg actacacagt tacataaagg ggtctcttct ggtgccttcg 420  
acttgagtca acttgctgtt cgtagttgat actttgtgat tctttcaata gccagccaag 480  
gtaaaagtat acgtatttaa acaagtggta gtgctgaaag tgtcaaattg gcgggcaata 540

agaaacactg aagaagacct tgttgaatgg agcagtttac acaacaaaaa gttctgtgct 600  
c 601

<210> 1535  
<211> 64  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-029-Q1-E1-F8  
  
<400> 1535

ggaataccgg gatcaccacg cgtcgcgccc acgcgtccgc ccacgcatcc gaagtattcc 60  
tgat 64

<210> 1536  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-G1  
  
<400> 1536

ccgggatcac cacgcgtcgg acgaaaagga agtcaagtga aactcgttcc agaagtgcc 60  
ttgagagcca ctcatatgga aaatacttat gatttcttca agcctaattc cagttcggaa 120  
tatccaaccg tggatggtgc gaaaaccatc agctgttata ttcgggctgt ggatacttgt 180  
tatggtcgtt tcacacgtcg tgcggaagaa ttgttgaagc aagaaaagtt ttcgttgcag 240  
gatatcgact acattgtatt tcatgcgcct tttcataaga tggttcaaaa gtcttttgca 300  
cgtttgcctt tcaatgactt tcgacgcgat ccagataaca aattattcga gaatgttcaa 360  
gcgtntcgga atatttcgat ggaagcttcc tatagtata aa 402

<210> 1537  
<211> 456  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-029-Q1-E1-G10  
  
<400> 1537

gtccaccac ccgtccggag ttgcaaatca cagaaatcaa gacaagtccc gttgtcgatg 60

agaacgaggt gagaaaaaga aatatgtttt gcatcctact gaaaacttgc aggatcatat 120  
 tgtttttgaa atgaccgaca ttttttctgt ggaaggatgt gtcattggaa acaaacctca 180  
 tgttactcga attggcgatt ttgaagtaga cgtcgtttta gaaggctctaa ttcttgcata 240  
 ttatcaggtg gacaaacctg gacagattgg aaaagaagta ttctcggaga agccaatgtg 300  
 aacatttctt ttatgacgtt gggtcgacat gtaccatcgc aaatggctct tgtattgcta 360  
 ggcttggaga atcaaccoga tgagaaaaca tcggaaaaga ttcgggtaaa cctcgaattg 420  
 gagaagaacc cgtgttatta gacttgggtg aaattt 456

<210> 1538  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-G12  
 <400> 1538

gggtggacat gttgcacgtt ttgttgtctt ggattgacag acagggcgga gtgtgtgtgt 60  
 acgattaatt acgtacaagt gcaagcacat tgattgatat atgtaaaccg actggtggca 120  
 gagaaatgcg catatgcagg gacgatggag tgtgcagact cgtgagtata cactcagttt 180  
 gaacaagcga ttgaatgggt gtatttggtg gagacgtgca cctcgggcaa acatagagtt 240  
 ccggaagttt gatcaaagc ctatgggaac aggagatgggt ctgtagaag caccactgca 300  
 tagatgtatt tgttcacacg gcatccgaaa cgcattcttt cgtaatcgca tgaggctggc 360  
 aacactggca aatcaatact tacatgcacc tcaatgctt 399

<210> 1539  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-G3  
 <400> 1539

tatacacacc atttttcaca caaccaacat gcaaataaca cacgtaatcc acgctgaaca 60  
 ccattctcgc atcaatacat gacccaactc taagaaaata atatttgcata caatcgaatt 120  
 aattccaata ctgttcagtt caatctctcg tgaaaacgtc tgaacactcc taaaactcag 180

aacatcagct aaatatcata cacatctcat aatcgcaaca ctgcggctca atccgttctg 240  
agtccccccc tactc 255

<210> 1540  
<211> 595  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-G6

<400> 1540  
  
cactaggctc ggaataccgg aatcaccacg cgctccgcgcg acgcaagagt gaagatggaa 60  
cactggagtc cttacaaaga cgaacttgta gctacagcaa aggcgctggg aactcctgga 120  
aaaggaatcc ttgctgggga tgagtctacg ggcactatag gaaaacgttt tgctccata 180  
aaggtggaga ataacgaaga aaatcgagg agctatcggg agcttttatt cactactcct 240  
aactttggtc agtatatttc ggggggttatt acttttgagg aaacgttgta tcacaagact 300  
agtcaaggaa agccatttgt ggacgttatg aaggaagctg gagttatccc tggcatcaag 360  
gtagacaagg gagttactcc gatccctggg acgaaggatg aaacttccac ccaaggtcta 420  
gactcncttt tgagtcgttg tcaaaagtat tatgagaccg gtgcaagggt tgcaaagtgg 480  
agagccgtga taaaaatatc cttggcagat ggctgtccta gcgatgtggc aatcaaagag 540  
aatgcttgng gattggctcg ttatgcagca atatgtcaac aagctgggtt gggtc 595

<210> 1541  
<211> 591  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-029-Q1-E1-G8

<400> 1541  
  
ccacgcgtcg ggcgagattt gcctcgtcga atgagagctc tttgcgtggg tggttttctta 60  
tcttcggcag agtctgggta tctgcactat aataaagcgc gtgtgccctt taaaagccag 120  
ttttcacgaa tttctctaaa tactgtatta agggcagaaa aggcccttca aacgagaaga 180  
aaattaagta ttagcctttt cttgggactt ggcttgaaac aaaacacgtg ttcagcactc 240



catctggtac aggtgacaaa tgccaccttc agtgacctgg agagcagtag tatggcgggg 300  
aacgaggaac ccgcagatag acaaactttt gaaaatttaa ggattgggtca agtatttgaa 360  
ggaacagtgg aaaagttgat gccatacggg gcttttgtga atataggacc gaatctttcc 420  
ggactgctgc acgtttcaca aatctctgaa aacttcttaa cagaccctgc agaagtgctt 480  
agtgttgac aaacagtgca ggttcgagtc attagattgg attctgagaa aagacaattt 540  
gcactgtcta tgaagtcctc gcgtaaacga gaaactagtc gtccaaacag g 591

<210> 1542  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-H1

<400> 1542  
agaactcata tcaaccaa at catatcgctg taatagaagg cttacatcca tggatatgatt 60  
ccaggatgaa acagctctta gactttactg tatacttgga tataagtgat gaggtaaaag 120  
tagcatggac aattcacaga gatatggcag aaagaggcca taaacttgaa aatatcttgg 180  
cgtccattga gtctcgaaaa ccggatttcc aacaatatat cgatcctcaa aagaaagatg 240  
caatagcggc cattcaagta ctntccaacc agctcattcc tgatgacaaa gaaaagaacg 300  
tcttacgtgt acgttttata caaagagacg gaaatccccg gatccaactc gtatatctgt 360  
atgatgaagg ttccacaatt gact 384

<210> 1543  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-H10

<400> 1543  
gcgtccggag aaaaaacca gaagccaaga taaggtatca aagtaaagaa agaaggaaaa 60  
ggagaagaag agagggtacg cttagaagca gcaaaccaga gaggaagcg ttaaagcatg 120  
aaagaaaaga aatccgaaaa agaagagaaa aaggtaagaa agaggaccga atcagggtaa 180  
gaggtaacagg agcaagaaga gaagagagaa tgctgggtgg agtagcgaaa caagagaagg 240

gaagtaaaag gtaagaaaga ggaaaggttt acgagagaag gaagtagaaa gaagagagtg 300  
taaggcggcg tcataataga aatccgaaag gagtagaaga aaagagagag aagaaagaaa 360  
agaagagaaa agccgtactg aagaccgaca caggtactcg aggagaaagg agaaccagat 420  
taaggtgaga gaatgga 437

<210> 1544  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-H12  
<400> 1544

ccgggtcctt cagaaatggt gactacctga aacttcactc tggaccagga ggtgtcaaaa 60  
gtatggattg gtgtgcgaca ctatttcgaa tgtatattcg ttgggcggaa caacattcat 120  
atgaagtgga cattgtcgat gagaacaaag gagaggttgc aggtattcgt tcaggaacgt 180  
tgaagattga tgggtggcgat ggttgttcat ttggttggtt gagaaaggaa gcaggagtgc 240  
atagacttgt tcgcatatct ccgttcgatt ctggaggctg tagacatacc tcatttgttg 300  
cagtttctgt tattcctgat gttggtgaag acttgaagga aaatttgatt gagcctggct 360  
ctctgaggat cgaaacgttt cgagcttctg gttcaggagg tcagcatgtc aacaaaacgg 420  
aaagtgtat acgcatagtc cacatccca 449

<210> 1545  
<211> 498  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-H2  
<400> 1545

catgttacta tcctcatgat ggtttgaagt tctatgtgag tctttttacg agacctcctg 60  
tttctccagt atcttctgct gcggggagtg agaacggtga aatggattct gctgctcttt 120  
tgaaggaact gtgtctagat ggctattccg cagaagtgga actgggccag aatgcacttt 180  
tgaacagcca agacagtcct gggtcggtag acggagttgc agatgatatt gcggccaacg 240  
ttttgaacag cactcacgag tctacgagga ataaggacaa agttccttgt tatgaccgtg 300

attttgagtc tgtttgcgaa ccttttattg aatttcgcca tagagatggc agttgtcaac 360  
 gtttttctga agttgttcgt caatttgaga aaatagcttt tgaagggtgtt aataataatc 420  
 tcgttttagga atcgctcgaga atatatttgg tttctcttgc gcgacacaat aaatcatcgg 480  
 tacttgtgcc attttttg 498

<210> 1546  
 <211> 293  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-H4  
 <400> 1546

tccccaacct tgaggacttt gaccggataa tgaaaagtta tttggatact tcgggcggac 60  
 aatttctgaa agagacttca ccagaagtaa ccactgaatt tcggcaggct tttgatgac 120  
 caagttccgg ggatgatccc attgaattgc caggaaccaa ggttcctcca tggaaccaac 180  
 gggttggccc caacaatttt ggaggaaagg aatttgggtg gaccaaccac cacccttta 240  
 gggtaaatat gccatatgct tgggtgtaaaa taaaggattg aaccataacc ttc 293

<210> 1547  
 <211> 546  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-H6  
 <400> 1547

aggctcggaa atccggaatc accacgcgtc cgaaaatggg tttgaatgga gtcgacaatg 60  
 gacgtatatg gtttgatcat gtgcgtattc ctcgagaaca cttattggct agattctgtc 120  
 aagtttctgt ggatggaagt tattcttcgg tttataagac tgcggatgag aggtttgcag 180  
 cacaattggg tgctttaact ggaggctgtg ttagtatttc ccgttccgct atgaatcagt 240  
 ccatggtcca acagaggag tggaaatacc tattatgaac tatcaaagtc atcagatgag 300  
 attaatgcca ccattggctg caacttgtat tatgactttg tgtgccaatc atttaaagtc 360  
 tcgttatcgc aaccgagcca atgagaatth aaaggaattg catatttga gttcaggttt 420  
 caaatctttg atgacttggc aatgagaga tactttacaa gaatgtagag aagcttgtgg 480

aggccaagga tatacaagtg aaaatagaat tggcgtcttg aagagctctt ttgatgtct 540  
attgac 546

<210> 1548  
<211> 441  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-H9  
  
<400> 1548

gccacccacg cgtccggaag tggactggaa tattttgtcg ggacatttgc actcaaatac 60  
gggaaaccga gataatacat atatgataca tcagttggca agatttgggt acttcaaaca 120  
acctttattc tgataaaaca agtactcaac gcaaacacgc aagtatgggt gcctttgcat 180  
gcaacatcct ttcttacgag ctataagcgc ttgttgtgta agaaggataa ctgctgtagc 240  
tgtaatatgct actgtacatc ggataggagc ttgagtaact tggataataa ggagtgggag 300  
ttggttcctg gatataatag aaaccatatt ccagggttgc taagagacat tcgaaacacc 360  
actgataaca ctccaaatac cattctggat agtaataagt cattggagga gcttcatagg 420  
tagcatanga gatgggtgaa t 441

<210> 1549  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-030-Q1-E1-A1  
  
<400> 1549

ggaaggggag ggaggatgat ggtttggttg cggttatggg tggggttgac agggatggca 60  
ggtttcgctg cggcgatagg tgcttggttg aaccatcct cgccatcga taccatctac 120  
cgaaacattg caccatcga tttgctcga tctccaatgg atgaagcgtc gtcgtcgttg 180  
gtaagccgct tatatgccac ctggttatct ctttcgaccg ttgtgcgatg tacttttatg 240  
ctatcttcg agttttcctt gcctctagcc gtcgtcacct tggccaccta tgctgctcgcg 300  
tgggtgcact ttgcggtgga aatatttatt taccacacgg tgccgttgaa acctggtggg 360

caagcacctt tgttggttgc ctcggtgtcg ataagttgga tgctgtggga ttgga 415

<210> 1550

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-A11

<400> 1550

tcggcacctt catcgaaatc gtcttcgaaa accccgagaa gagcatagac tccctccacg 60

tcgatggcta cgccttcttc ggcgtcggga tgggccccgg gaagtggtcg ccggaggtga 120

ggaagacgta caacctgctg gacacgggtga gccggcacac gatccaggtg taccgcggt 180

catggacggc aatcatgctg acgttcgaca acgcgggcat gtggagcgtg cattccaaca 240

tctgggagcg gtactacctc ggggagcagt tctacatcag cgtcgtctcg ccggcgcgat 300

cactgcgcga cgagtacaac atgcccgaca acgccctccg ctgcggcaag gtcgtggggc 360

tgccgctgcc gccgtcctac gcccccgccg gctaagacga cgaaggcctc gtt 413

<210> 1551

<211> 108

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-A12

<400> 1551

gcacgggaca aaaatgaaca aggcgttcac gtcgagaag cccatggacc tgaaaaaagg 60

cgtgaaccac gtcgccgtct tggcgccac gatgggaatg atggacag 108

<210> 1552

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-A2

<400> 1552

cacacgcgtc cgaaggaact aggcaaaagg atatggtatc tgcggtagaa catatgaaag 60

aacgtgctgt gaagtgaag aacgtacgag aaagccaagt gaggaaaaga aggcaagtag 120

agggcgcccc gagaaaggag agggcgtaag acgtgatata gagtaggaag aaaagagaag 180  
 agagctagaa aggaggtaaa agaagagtaa aaggactaga agaggtagcg aattcacgag 240  
 gaaggagcgt gaaggaagga ggaatcccaa gtaatcgagg aagaaaaagc ttcgggtgaaa 300  
 gcgtgaacgg attttgtaca cactgcccgt caagttctgg aagtgtgcta ggaataagca 360  
 ggagaagtag aagagagtag gaaaagaaga aaggaagtga agacgtaaga cgtg 414

<210> 1553  
 <211> 442  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-A3  
 <400> 1553

cacacgcgtc cgcccacgcg tccgcccacg cgtccgcca cgcgtccgaa cagcaatgtg 60  
 taaagtatgt ggctcaacaa gttatcgac ccaacaatg tgtcaagtac tataccgagc 120  
 agaagattca acaaaagtat tgctctcgct atgttactga agaagaagta caaagcaagc 180  
 agtgcacaa gtatgtatct cttcagaaga tcaagtacga gtcttgctct gctcaatatg 240  
 aagttcaaaa gatcaagcag caacaatgta ctatgacagt ctctgaacaa tacatacagc 300  
 ccgatacttg ctacaagtat gtccctgaac aacaattggg gcctcactact tgttacaagt 360  
 attattctgt acccaagttt attgaaaagt gctatcctca gtatgcaaca acggagaaat 420  
 gtgtaaagta tgagtatgtt cc 442

<210> 1554  
 <211> 273  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-A4  
 <400> 1554

acgcgtctga acattttgag gcttgaccga gttgagttct gaaataactt tatcataagg 60  
 tgtcaagtat ctcgattcag aagttctgtc tactcaagga gttttacttg gcatttcact 120  
 tgcagttatt ttattgttct gcgtgaccac ttaatggaat tagaatgaaa gctcttactt 180  
 aaaataaaag tagtactttg agctttcaaa accaaaaaat taaatgcgaa tcagtaccat 240

tggtattaag aattgccgtc ctacctgtaa tga

273

<210> 1555  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-030-Q1-E1-A5  
  
<400> 1555

cacacgcgtc cgctttgggt ggctgcataa taacgcagtg gcatctttct tttttggggg 60  
ttcgtttgcc gcgcaactgc cgcactcagt tttggtggga caagttggct gcaccatgca 120  
cggaaattca gtggttggtta ttgtcagttg acggaagttt tgcttgtatt ccatctagtt 180  
gaaatgaagt cggtttatgg tggattgtcg tcaacaacaa cgaccaccgt ctagtgcccg 240  
tgaagaacca caaccatctt tgcaaccttg ttctgggata caacgactcg aaaaagacgc 300  
ttgatgatat tttagtttgg caatggcgtg caagttcgtc gtggaacctc gatggatata 360  
cttctgacc gtgtattcaa tgttttttgg tgtagtagtt actggt 406

<210> 1556  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-030-Q1-E1-A7  
  
<400> 1556

cattgggtat gtggtttctc cttttttgga ggcaccaaga tacgcgaagc actgaatatt 60  
gcgggaactc tgctatttcg tttcttctat ggtcctgggt tgggtcccgt tccttggggt 120  
attgtagcgg agatctatcc ctggtatggt cgttcgcaat gtctcacgtt gaactcgttt 180  
atcagttaca tgctgaattt cgtcgtttct ttttcatggc caacgatgct caagtcgatg 240  
catgcacaag gcgcgtttag tttctttgca ggttttacgt tggtatccac ttgctttatc 300  
tatttgtttg ttccagaaac caaaggcgtg gaaatggaag ccattcaaga attgtttcaa 360  
tatccattgt atactattgc taagaagaat ctaagggaac ccaaagcgta tttgagcaag 420  
tttt 424

<210> 1557

<211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-A8  
 <400> 1557

caacacaggt actcgaggag aaaggagacc caaattaagg tgagagaatg gacgataagg 60  
 aactaggcaa aaggatatgg tatctgcggt agaacatatg aaagaagcag caccgactgt 120  
 ttagcaaaaa cacagcactc tgcagaaaag agaaaatgta aagtatagag tgtgcggcct 180  
 gccaaatagt agagaagaaa tcgatgaaag tgaaagcgag taaaagatga ggtatagaga 240  
 atggcggtcc taactgtaag gatccaaagg tagcgaagta aatagacgtt tgaaaggcgt 300  
 ccagtatgaa aggagaaacg agtgtagcac tgtctagtcg tccaactcag cgaaacagca 360  
 ataactgtga aaatgcagta aactagcagt aggacggaaa gagcccataa ttcttgacta 420

<210> 1558  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-A9  
 <400> 1558

ttaaccggtg gttcaacctg gctaataagc cggcgtgccc ttcgttcttc ctcgccccga 60  
 tccccgacgac gtcctgttcg gtcctggcaa accacatcaa gtcgcgatgg agatgaagaa 120  
 ggctgcctgc gccgtcctcg ccgcgcgcgc ctccgccacc gtggctcctcg ccgccgaggc 180  
 cccggcgccc gccccacca ggcctcctc ggccgcgttc ccggccgctc gcgcctgct 240  
 gggcgctcc gtgtctcct tcttcgcta ctacctgcag taaaattaaa ggaggatcgg 300  
 agggagagggc tgctggctgc cattgcctgt attcggttg attccgttta tatatatagt 360  
 taagtacttt aatttgggtc tgaacatgct gattgatcca ttcattttat ttgctttgcc 420

<210> 1559  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-B1



<400> 1559

cacacgcgtc cgaaaagaaa gaaattagac aaaatcctca taagattatt cgaagactct 60

tgtgtaacca atcatgttgc tcgagcattt gactttgcta gtagactata ttcttacaag 120

gcgtacaaaa ttgcctgtca agtagcaaac caccataaat taggtgcact cgctcaaaaa 180

gtagagtcac tgatggatca atgtcctgaa attcaggaaa cgaaaagttg tcttgtggat 240

gattctgcgg agtctccaac gatacaacaa cataacaaca atgagaacat acctgttcgc 300

gccaatcaga gtacagaagc tattcagggt gtacaaggag atcttgcctat tcaagacaaa 360

gcacaaggta tcggtgcac tcgtttggta actccatcga ggattcaaga aagaaagccc 420

aaactgcaag aaatggcaaa ctgccttgat ac 452

<210> 1560

<211> 461

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-030-Q1-E1-B10

<400> 1560

tacggtcgca cttccgggtc accagcgtcg ataaccaga ttccaccaat ctaatacggc 60

ccaatctaaa gtgagctact taacggacta gttaatacta gtgaaataga ttagaccctg 120

ctggccatgt tttaacttaa attagtagat cagaccaaac caccatgaa caaataactt 180

accagcatat tcatgggtgac caccctccc atcctagatg ttgccataat acacttatct 240

tatgccacca gcctgttaac catctgtcct tacctacaag ttatcctaac tacatgtccc 300

taattcggat aaagacttca agaacgaaga tcgaagatga tcgagctcat caaatcaagg 360

aaggataagg ttcaagctag atcttcaaaa gtaatcaaga ttcacaatct tggatagagt 420

ctttcctagc cctacccttt cataancaaa cctatctatg c 461

<210> 1561

<211> 363

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-B11

<400> 1561

cttcggaatt cctcactgaa aaaggttact ccttcaccac ctctgctgaa cgcgaaattg 60  
taagagacat caaggaaaag cttgcatatg tggctcttga atacgaccag gagctcgaga 120  
atgccaaagag cagctcatct gtggagaaga gctacgagct gcctgatggg caggtgatca 180  
ccattggggc agagagggttc agatgccctg aggtcctctt ccagccttcc ttcattggta 240  
tggaagctcc tggcatccat gagaccacct acaactccat catgaagtgc gatgtcgaca 300  
tcaggaagga cttgtatggg aacattgtgc tcagtgggtg cagcaccatg ttccttggtg 360  
ttg 363

<210> 1562  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-B9  
<400> 1562

ccctcgctgt cgtctcactc accccgcctt cagcctccc tcaccaaata aggtcccgcc 60  
cttttccgac attcacaggg gggacaggaa atcagcggcc atggcctcga ttccggcgac 120  
gaccttcgcc gtcattcttat ccgtcctcgt ctgtgcccg gctggcaccg ccgtcgacaa 180  
cgacctcccc gactacgtca tccagggccg cgtctattgc gacacctgcc gcgccggggt 240  
cgtgaccaat gtcaccgagt acatcgcggg cgccaagggt aggctggagt gcaagcactt 300  
cggcaccggc aagctcgagc gctccatcga cggggtgacc gacgggaacg gcacgtacac 360  
gatcgagctc aaggacagcc acgaggagga catctgcgaa gtggtcttgg tggagagccc 420  
gcgcaaggac t 431

<210> 1563  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-C1  
<400> 1563

aaagtatcgg tagaacagcc tgtgtatgag gttgaaaaga agaccgcaga atatgagata 60  
agaaagtacc ccagcttaag aatagctgaa gttcatcggt cagactggaa aaaagaagag 120

aatggctcgg catacgactt tgagtcgcaa gcatttcgag tgttggcgtc gtacattggt 180  
 gtatttggag aacccaaaaa caaagatagc tccaacacgc atgttaagat agcaatgaca 240  
 gcacctgttt tatcacagcc catagggtcc gtggaaacaa gaatggacga cagcagtcta 300  
 gcgtttatat tgcccaagga gtatgcagag caacaagaac ctccacagcc attagaccca 360  
 cgagttcact tgcgtattgt acctgtcaga aaagttgcag cgactacttt tagtggtact 420  
 gtcaatcgtg aaaca 435

<210> 1564  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-C11

<400> 1564  
 ttccccgggt caccacgcg tccggaggaa cagccaaca agtacaaggt ggtggacgcg 60  
 gtgacggtgc tagagatgca ggtggacgcg ttcaagaagc gcgtgaaggc ggcgcggagg 120  
 ctgcgaagg aggaggtcaa gacggccgcg acgcccaggc gcgggagggc gctgaacctc 180  
 tgcaagacct actacctgga cgccgccgac aacctcggcg cctgcaagcg cgccatcggc 240  
 ttccgcgacg ccgtcaccat ccgcgccacg atgagcatgg tggcgcagga cacgcagaac 300  
 tgcgacgagg agttcaggaa ggccgtctcc aagaacccca tggaggacca caacaggtcg 360  
 ctcatcgaga tgtccgagat ctgccgcagc ctctccaaca tgatccctta cgaacatgtc 420  
 cattgatttg tttgtttctt tttcccgacc ccctactacg ttcg 464

<210> 1565  
 <211> 257  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-C3

<400> 1565  
 tacggtcctg atctcncng tgcgaccacg cgtccggaat tcatgaaatg gtttttattg 60  
 aaacaagaaa acccaaagat acctcttcaa caacttagtc cactacacga tacactgttt 120

actagaaggg aaacttttat tgtgctaata cgagcttttt gacccttact cacacttttt 180  
 ttcggaagta tctgaaccac ctggcagtgg tatttgctga cgtccacttt ggtaaatttg 240  
 tgacttgctc cttttaca 257

<210> 1566  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-C7  
 <400> 1566

catgtgcaag tcaacaaaca tagaaaagta aagagattgc aagaagataa tattttgaat 60  
 agagcactat cacaaccagg agatgtatct ctgtgctttt gcaacatcca gttgttggtg 120  
 aatgcagaaa gagctattat aggaaatatt acttgtccag aaagtatcga attgtgtcgt 180  
 ctattagctg gacatatagc ggttttggtc gatgaacatt tggatgactt tcgtttggaa 240  
 gctatcttgg gagcactatt gtgtacttgt tattgtgagt ggaagcgttt tgaaggagaa 300  
 ttgggggtac aagaatggaa tgaattggag aagatatctt ccttagatac ttggaagctt 360  
 gtgcttggtg caagacaaag agtggataat atgttacagc gactacacaa gctgacgagc 420  
 atcttgcctt ttttatactc 440

<210> 1567  
 <211> 288  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-C8  
 <400> 1567

gttatggaag agtaggacgt ggaggaggtc caggtagagg tagagctcga ggtggagccg 60  
 gagaatttgg ctatgccttt taagttggca gtcactcttt cgcatagaaga ctacgaaagt 120  
 ctcgtagtct tgataaacia ccttatggaa tgatagacca agttacaaat gtttgtttgt 180  
 ttttgtttct ttttgtgtga gttgtgtgtt tgaatatttg ttcttttcat gagaagagtg 240  
 tcttacctct gccttgataa aagtagccaa acggatggat tggtcgcg 288

<210> 1568

<211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-C9  
  
 <400> 1568  
  
 cggggccaac caagccttcg gacaagcctt cggggcgctc gtggtttcat ttcttcccc 60  
 cttctctcgt cacgtccaat aaaaaggggg gaaaacttct ctctcttttt ttccctcccc 120  
 cgcccgaatc tgatgcttaa accctcgccg ggaggaggat tccaatcccc acgcaccagc 180  
 ccgcgcccgc cacctacagc cgcgcccga tctccgccat ggccgcgcgc ccgcaccagg 240  
 cccagggccc cgcagatagt gtgattccgc tgcagtctga acctgcactt gataataatc 300  
 cctccaagag tgcaaacgct agggaccaga ttctttctgg tacggagaat gtgactacag 360  
 gcaatgcacg cggcggcagc tccttgaaat cgcaaaaagg cccgccaga 409

<210> 1569  
 <211> 225  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-D11  
  
 <400> 1569  
  
 cacgcgtccg cacataacta acctattgta ctctacaata atacaaaaac ggaacctct 60  
 ttccaaatcc ccaaaaattg tatctcctag ttgaaaaac tatttcacat cacttcatgg 120  
 tccggtggga ctcccttgat caatgatcgt taatttgggg agtgattacg aattgcacta 180  
 aagattcact gttcagttcc cattaactat acaaatcacc ccacc 225

<210> 1570  
 <211> 105  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-D2  
  
 <400> 1570  
  
 acgcgtccgc gatagacctc tgcccacgcg tccgctcacg cgtccagctg attcttgggc 60  
 ttatctcaca agtctgggtgc cttgttaact gtacgagcat acttc 105

<210> 1571  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-D8  
  
 <400> 1571  
  
 cacacgcgtc cgcccacgcg tccggaaaag gccaaattgt tggatgccaa gtttctaagg 60  
 aagtattatg aggagaacaa ggacttcttc ttcttgcga ctagagaaga gaagaaaatg 120  
 tttgtgacgt tacaacttgc cagggaatat gcagagctgg tagatgacca attcttgaag 180  
 ggcttcttcg agaaggctct ggagtctgct cagaagacgt tttaatttgt caagtagagt 240  
 gtagtgtgcy tttttctgtg tgtatttgtc tctgtgtgtg tgtgtctgtg tgtgtaatga 300  
 gtggagccga gtcagagaaa acggcttggg tctttcctgt ggacatagtg ggtaaagtct 360  
 gatgggtttc tccacggctt tttagtaa ataaaagtgtggt 400

<210> 1572  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-D9  
  
 <400> 1572  
  
 taccggtcgt acnattccgg ggccaccac gcgtccgaaa agaactaccc tattgtactc 60  
 tatataagag atatcgagaa gttccttcac aagtcccaa aaatgtatct cctgtttgaa 120  
 aaactattaa acaaacttga tggaccggtg ttagtccttg gatcaaggat tgtagatgtg 180  
 gagagtgatg aggagttgga ctacagattg actgttctgt tcccatataa tatagaaatc 240  
 aagccacctg aaaacgaaaa ccaccttgta agttggaaat cccaattaga agaagacatg 300  
 aagatgattc agtttcaaga taaccgaaat catattatgg aagtccttgc agaaaatgat 360  
 cttgaatgtg acgaatt 377

<210> 1573  
 <211> 271  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-E1

<400> 1573

agattatgat acttttgtga gtgcatatga cgatgataga cgaaagaggt tgtcttcctc 60  
ccacaaggaa gaagatagca agtcgagttc atcttccaag catgacgaag aggaagaaga 120  
agaaggagat gacgattctt cttctcatgg tggaaagaaa aaaggtcgtc acccaccaga 180  
tggcttttga cctgaattgg cataatcttg tttgtattgc tatgtatgta tgtttgtagg 240  
tgagaggcgc gaataaattt tccttttccc c 271

<210> 1574

<211> 438

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-E12

<400> 1574

aaattttgaa tcgatcttgt ccaagtgaga atggcggcaa agaatgaaaa ctcttgttgt 60  
atgcttttgc aagtgaagag actaagcaag gacgctgttg tacctcaaag aggttcgaaa 120  
cttgctgcag gttatgacat ttgttcctcg gaagactgta ttgtaccagc tcgaagtcgg 180  
tactgtgtta aaactgactt ggcagtggcg attccctcgg gacactatgg aagaatagca 240  
cccagatcag gacttgcctt aaagcatgga atcgacgtag gagctggtgt tatagatgag 300  
gactatcgag gaagcctcgg tattatttta tttaatcatt ccgaagagga tttccatata 360  
tccaagggaa atcgaatagc tcaacttata ttagagagaa tatctactcc cgaagttggt 420  
gaagtggata atctcgat 438

<210> 1575

<211> 255

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-E2

<400> 1575

acgcgtctga agatatgata cttttgtgag tgcatatgac gatgatagac gaaagaggtt 60  
gtcttcctcg cacatggaag aagatagcaa gtcgagttca gcttccaagc atgacgaaga 120

ggaagaagaa gaaggagatg acgattcttc ttcgcatggt ggaaagaaaa aaggtcgtca 180  
gccaccagat gggtttgtac ctgaattggc ataactttgt ttgtattgct atgtatgtag 240  
gtttgtaggt gagag 255

<210> 1576  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-030-Q1-E1-F1  
  
<400> 1576

cagacgcgtg ggcaaataca taagcaggag gagcctttgt atagccatct ggattcatat 60  
ttgattgttg agtatttggg taaagaaaca tattgctgta gggtcgaaaa tcgttccacg 120  
accactgcga aggtgccggt gatgggtaag ctgtctcgac ataaaaagag cgaccactt 180  
ctggcgtttt gtccatatca gagttcttct cattcttctg ctggggtgga aaataggaag 240  
acggagaatt ggcattctatt tgaggaccgt agaaataatt tgaaggctct tctatctttg 300  
caggttcact agtcattgtc atatcgaaag gagctgttct tgatgagtta ttttcgtgta 360  
tagtaacaga attcggagtc ctggtgtctg tcatgttctt ctgggaagtc gctacagaat 420  
cgctctttga aggaccgccc ttcaatgaa 449

<210> 1577  
<211> 194  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-030-Q1-E1-F10  
  
<400> 1577

aggtgcggct gagatatcga gtgttggtgca tgtgggcatg acagtcggcg acgacgagaa 60  
tgtagccctc gtagcttctg cataatgtc ctgcgcagta ttcgaggatg gggctccttg 120  
ggctctactt cgctaagttc gggcgccggc tcgttgatct tctcctgtgc aagctatgta 180  
cgggtgaccc cgtg 194

<210> 1578  
<211> 155



<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-F2  
 <400> 1578  
 gcgtccgcac aagcgtccgg aaccaaata agcaattgta caagttgcc a ctcgtcttt 60  
 tgtaacatag ctcccagcgg cagttattgc cgagaaaccc gttgcacctt gataaaatcc 120  
 tggagcagct agagataact ttggagtgat acttt 155

<210> 1579  
 <211> 105  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-F3  
 <400> 1579  
 cgaaacatct aatcttcatt gtgtcacaat gacctaacca ctttgattca cattcaaagt 60  
 gaaaataact ggctagctcc ttttgtgtta cattgcaatg tttta 105

<210> 1580  
 <211> 456  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-F4  
 <400> 1580  
 cttegcctag gaaccacaaa ctttgtactg ctgtaacatt ttatggctac tgaacaagt 60  
 actattttaa aggataagcc aagtgaactt gtaactttgt agaacggttt gggccttgta 120  
 gcgagatagg attgcatcta gcaacggcag ggatttcatt gtcgaaaagg agcgtgaaaa 180  
 cgtatcactt ttatccgaat cttcaacta catatgtaac gacatatagt gaattttagg 240  
 agccacgagg aaagtttcca gcaattatcc tttatgtagc gaaaacgaag cttacatca 300  
 aacatggcaa gggacaagac tctggacttg ttagagcgac gaaggttttg tatcacgagc 360  
 cgacaaagaa cccttgcatc cgtcattttg aggctttacg tcagttntc gacatgcaaa 420  
 aatgttacat ttgtaataaa aattaaacat ttgact 456

<210> 1581  
 <211> 443  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-F7  
  
 <400> 1581  
  
 cacacgcgtc cgcccacgcg tccgaaatac acttcgattt atgggtggca atttatatga 60  
 ttttagaaaa caagaggatg ccatttcttt agctgaatta cccgaattgg acaagtatat 120  
 gctccgtata tttggcaagt ttaaggaatc cgtggagaat tggtagagc gatacgagtt 180  
 tacctttatt tatcaagcac ttcagcgact ttgtattaca gagttgagca acttttattt 240  
 ggatatttca aaggatcgtc tctatgtctc tgctcctgat gattttcgtc gtcgaagttg 300  
 tcaaactgtc ttacatatct tactagaaga cttggtacgc atacttgctc ctattcttcc 360  
 tcatactgca gaagaccttt ggcaatgttt tgagtctcga caagatgtga atgctgcttc 420  
 tgtatttcag tctggttgga tat 443

<210> 1582  
 <211> 458  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-G10  
  
 <400> 1582  
  
 acggtctata tccgggtcac aacgcgtctc aaaatttgca gaagaatgtg gtcacaaga 60  
 acaacagttt gcaagaaagc tccacttgcg ttttttatgg actcctatag cttttcaagg 120  
 ttataacgac aacacgaaag tagagaatag acacgaaaat agactttgct ttacagtgtt 180  
 caggcgaaat cgcctcaccg gttcaagtgg aaggcagaaa ccagttctgt tagaagagtc 240  
 agctggcaac gtctattgga accaatcttg tgagttggct ttaggagta taggttataa 300  
 aggcaagccg tttgaacttg ttcccttga cgaacgagct ggagtcgttc ccaataagtg 360  
 tggtcgcgtc ttgagccgag tcgaacaaac ctcggaagaa gaagagttgt ttgaaaagg 420  
 actgtacgtt gttggctggt tgaaaagagg accaacag 458

<210> 1583

<211> 444  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-G11

<400> 1583

ccacgcgtcc gcacacgcgt ccgggcggtt ccgttccccg gggacggcgg ccccttcaac 60  
aacctcgact tctgctgcta ctgccacgac atggcctacg acacccacga ccaggcccag 120  
ctctccgcgc ccgacctcgc cttctctcgc tgcctcgagg gcagccggca cagccccgcg 180  
cgcgacggca tcgcccgcgc agccatctac cgcgccatgt gcattctcgg actgaagacg 240  
atcctgatcc cgtaccggac gaacctcgtg cggctacaga cggggcccaa ctacgcggat 300  
ttcttcgccg atttcgtgaa gagggtcgcg tcgtcgtcgg gcaggccgac cggggcgag 360  
aagcagaggc tgtgaacgaa tttgctcgc tcgtcctaca tgtaaattgt gtagatcgag 420  
ccgaattggt tggggccttg gggg 444

<210> 1584  
<211> 470  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-G12

<400> 1584

tacggtcgta tttcccgggg cgccgaacac gcgtcaaaag ctcttcctta tattctttgt 60  
gcttggaaca tgggtgcaaa gactgctctg agttgcctct ttctctcttt ccttatcgct 120  
gccgcagttg cagccgacgt agtttcagag gagagatggg gatatgctca gcaaaccxaa 180  
caacagcaac agtgccaaca agtatgtaaa cagtatgcat actatcagag tccagtctgc 240  
acttccgtaa ccacacagag ccatactgg acccaatgct cgaagactgt gcaaaccttt 300  
gtcccaagcc agtgagtag ttatacccaa tctctacat ggacctattg cagcacctac 360  
accaccacta gcgtaccatc tcaatgcagc aaggccgtga ctacttatac tcaaacctgc 420  
tgtgcttatg cccaacaaac ttcctatgca gtcagtaccg agcaatatgt 470

<210> 1585  
<211> 417  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-G4

<400> 1585

gcgtccggcg tttctctcgt tcttttgtgg taagagctgg cgggtgtggga ggtgtttgga 60  
aagtgtccaa ccaagtgaat ccattctcgac tgcagcgctt ggaaaggaac gaaagagtgc 120  
gaagagcagg ttgggaactt tatgactcca agttgccaaa ggaacttcga gcacaattaa 180  
tgccaagtgc tgacaaggaa gtacgaagct ttgtggaaat gagaatacgg gaaatgatata 240  
tgaacggaga ctttgaaaat ttaaaaggca aaggaaaacc attcaactat tctgatgctg 300  
cagtgaagtac ttttgatgtg gctatgaaga tgcttaaaaa caatgatttg aagccacctt 360  
ggtaagttag caaggagata caagtcgtac gtaatatattg taggattgag ttgatgc 417

<210> 1586

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-G7

<400> 1586

cccacgcgtc cgggtgggtga tgccctggat tgagctacgt agtggcaact ccgtgtctt 60  
gaaagacata actgcaagta ttgaaaagcc tgacataaaa tggataacta ggacgaatct 120  
cagtacttgt ctgaattctg cagaaggaaa tgttacgggt gacttgtcgc ggcagtgtag 180  
cttgaaggat atattttcat tgaagcttct cgacaataac tttaagttgg cgtgttttaa 240  
tgatgccttg ttttttagttt taccaggctt atcctttggt attactggta atcgtatat 300  
ctgtagacgc tcggacttga atgaaacgga agcattggag tcttgctttt cgtttatgaa 360  
gatatgcccc acgtacaagt cgttgagat tctttttgga agcgagcaaa ttta 414

<210> 1587

<211> 459

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-030-Q1-E1-G8

<400> 1587

cagggaaagta tgacccagta atgaggagtg gagtaaacag aaaaggaagt aaaaggaggg 60  
aatgaaggga agttatggca aaaacacgtg ccagcagcag cggtaaaacg tgtgtagcaa 120  
gcgtagagca gaagaactgg gtgtaaaggt cgagtagtag agtaagtgtg aaagggaaag 180  
gaaaggagag aaagaggaaa gggatgaaat gcagagatct ctagagaaag gcaagaaaga 240  
aaagaaagga agacacagta aatgaggcga gaaagcatag gaagtgaaac ggattaggaa 300  
cccgtgtagt ctatgcagta aaagaaagaa tgagtaagaa aaaagggagt cattccacca 360  
ggggagtaaa ggcgcangan agaaacccaa agcaattgac gggaatcgga aaaaggggtg 420  
gatcacgtaa attaatccga tgtaaaccga gaaccttac 459

<210> 1588  
<211> 266  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-030-Q1-E1-G9

<400> 1588  
tacggtcntg atcttcccgg ggtcaccac gcgtccgaac acgcgtccgg ggcactgtga 60  
ctggtggagg tggtaggtct gccggcaaga ccatgctcct ggacgtggcc accgtgggtcc 120  
tcgaggacga gcgcctcggc aacgtggaga cgaccgcgct gatcaagatc acgcacctcg 180  
agatggtcag cagcatcgtc ggctccatcg acggcatcat ggcccagtag taaggccgcg 240  
gcgaccaggg cgacatgagg ctccg 266

<210> 1589  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-H10

<400> 1589  
cgcgccagc gcaatgacca agaatatcct gctacgccga acattgtgta gttcttcttc 60  
agcgacaaca ccaagaatac gatattttgg aaaaccagat agatccaaat acttgccatt 120  
tgctccttgc aattcgtaa agctatcaca agaagagttg gaacgattgc cacctcaagt 180

gagacaagta ttggaaccca agtaatggga tggaagaacg tatttgaagg caaatatatg 240  
 gaatgcagtg ttggcatttc aacgaaaacc tggagatact gggtcggcag aagtacaagt 300  
 tgcggtgttg accaatagaa tggaagcatt ggagaaacag tgcaaaagaa aacaagatga 360  
 tacgagagca aggtacttgt tggatcactt tacttcgacg agacagagac tgttgcaat 419

<210> 1590  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-H4  
 <400> 1590

tggcacccga taaggatttt ggtaggatat ataatacacg gtatggcaag taaagtggga 60  
 catgtacgta taatgaggac tacagagaag agtacgttag tgataacgtt gggaataata 120  
 atatgaggaa tgtggtcgat cgaactagaa agatggcgaa gatcctggag ttgggatgga 180  
 gtaaaaaacg tgcccatgac tatatggctg atgataataa ttgggataca cattggaacg 240  
 actacgggaa taaac 255

<210> 1591  
 <211> 462  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-H6  
 <400> 1591

ttccggggccc acccacgcgt ccacagacgc gtgggcaagt agaggattta ttggaacaaa 60  
 atggaatcca gaataagcgt gtaagagaat tcattttaga aaatttaacc acggatgatg 120  
 ttcatectaa gcacttttaa tggcgcgtga acgtttctgc tttattgaat tctatgaata 180  
 gaatactcga atttcctgtg aaagaaggga aaacatactc tcgcccgcac ctatttatcc 240  
 gaggagaaag atcaatttat gttatgaatc cgtccgctga aaaggctatt cggacttttt 300  
 tcccaaaagc agtcattgaa acaattgaag gagcaggaca ctgggtaacc gttgaggcac 360  
 cagaaaaatt ttgtgcagtt gtgaacagtt tccttcataa ctcaactgac ttgcgtcaaa 420  
 ggggcagttc gtttgtttga gttagtttca catccaggac ag 462

<210> 1592  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-H7  
  
 <400> 1592

```

caacaaaatg ccaactcttt tcggaagaga actggtgctg ttcgtaaaac tctagagtct 60
aagtgttaact gcactttaga atatatcgat gcacctcata cagtgggaacc agctggagaa 120
attctgattg aagaaacagg agaacgaaag tggattggtc cacagcttgg ttggtggaag 180
gcttcttcgg atggaaagca ctatgaaggc tgggaggaaa ctgtcgaata tttgaggagt 240
gtgtttcgtt tgcagggtcc ttttgaaggc gttttgggat ttagtcaagg agcagccttg 300
agctctctca tttgtgctat gaaagaacat ccagaacttg gctatggaga attttcttgc 360
atccgatttg cccttggtttt ttcaggtttc gtttcncgtg cagaagagca tttgcgtttg 420
ataaaaacaa a 431
  
```

<210> 1593  
 <211> 437  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-H8  
  
 <400> 1593

```

acgcgtccgc aaacgcgtcc gggacggaaa aagacaaaaa tacgatcgat gcagatgaaa 60
agaagagaaa tcaaaagttg actttttcaa caatagtcaa cgacgcattg taagaaattc 120
cctttcgaat tcacaatcaa aaactttttt gattcctttt cgtacatttt ggattgtggc 180
acacaacatg aaaattcctg tccgactcgt caagttttct ttggaaaaaa agaagccaac 240
ttgtttcaac agaagtataa gtggaatcgc ctacactttt tctcgccatg gacaggtttc 300
tgatgtcttg aaaaaggaga ctcaaagcta tgatgagaag aaacttggtc cttcgcaagt 360
actcgtgtcg tttcttgctt caagtatagg cacaacagat ttggcgtgga taagaggtat 420
gggaaagata acagaag 437
  
```

<210> 1594  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-A11

<400> 1594

```
cccacgcgtc cgacagggaa gtatgacca gtaatgagga gtggagtaaa cagaaaagga   60
agtaaaagga gggaatgaag ggaagttatg gcaaaaacac gtgccagcag cagcggtaaa  120
acgtgtgtag caagcgtaga gcagaagaac tgggtgtaaa ggtcgagtag tagagtaagt  180
gtaaaagga aaggaaagga gagaaagagg aaagggatga aatgcagaga tctctagaga  240
aaggcaagaa agaaaagaaa ggaagacaca gtaaatgagg cgagaaagca taggaagtga  300
aacggattag gaacccgtgt agtctatgca gtaaaagaaa gaatgagtaa gaaaaaaggg  360
agtcattcca ccaggggagt aaaggcgcaa gaaagaaacc caaagcaatt gacgggaatc  420
gcgaaa                                           426
```

<210> 1595  
 <211> 457  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-A3

<400> 1595

```
gggtccaggc acgcgtccgg aataatacgt gtagtaccag aatattcttt tgcgctgtct   60
accaaagaga ggtgtccgtt tttacttgta tatgaattgg aagatcttgg accagaagga  120
gttagctcac caagaaagac acatcatgaa gaggatccta cttccaatga gttgtgggtct  180
gtggaagaat ctggtcaaaa tagacatagc gaaagcgatg gaagaagaac ggatagttag  240
gaggaagct tatcaaagaa atttgccatt accaaacgtc ttggaaagga aaattctcat  300
cagatgagac gaacagagag agctgcaatg aagaaagagg cagttgcact ggcagcagga  360
ggtgcttttg agaatgaacc taatcgcccg gacgagtctt tcaactttca aacaaatgta  420
aataccgaag aacaggttac tggaatgac gatgtgt                                           457
```

<210> 1596  
 <211> 436



<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-A6

<400> 1596

gattggtggc gagttgagct ttgttttggga actgtttttt gtgggttttca ctctgtgtgtt 60  
ttgtcttttt aaattcgaag actattttatt tcttggtatg ttttagagggt gtttctagag 120  
tgtgtttttg gagttgttgt actcctgtcg tgggtggttg tgaatggctc tagtgacaaa 180  
gagcattggt actttccgc cattctccac agctccaacc accaacttgt atacgcacac 240  
atatacataa ccacatatta ctagagagtc gtggtgtaaa aaacgacaat tcgaatgggt 300  
gaaaaggctt gataaaaagc aaaggactag tgaagggtgt agagaaagca cttggaaaag 360  
ggggccactt ccttgatat tttgtctct agtaactaac taattccgct tggagatatt 420  
gtaagtttgg tgtatt 436

<210> 1597  
<211> 196  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-A9

<400> 1597

ccacgcgacc gcacacgcgt ccgcccacgc gtccgcccac gcgtccgcaa aaaatatatt 60  
taaaaaagtt aaaaaacca ttgtaaaata tggaaattga atataaaact ttaacaaatt 120  
aaacatgaaa aataaatata aatctttata agtgtgtta aaacataaaa tctccagaaa 180  
tgatgcatta acttct 196

<210> 1598  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-B1

<400> 1598

cggggccagc acgcgtccgc acacgagtc gcccggttg agaccgcaag tacattgctt 60  
cttgtttcca acaagagatg gccgaagtaa agttgtttta caaatggtct tttgaagacg 120

tcgaagtcaa tgacatgtct cttcacgatt acattgcagt gaaacaaaag tatgctgttt 180  
 atttacccca tactgctgga agatatgccg tcaagcgggt ccgcaaggct cagtgcccaa 240  
 tagttgaacg cttagttaac tctttgatga tgcacggcag aaacaacggt aaaaagttga 300  
 tggcgggttag gatcgtgaaa caggcttttg aaatcattca cttgttaaca gacgcccaacc 360  
 cggttcaagt atttgtccaa gctgttatga acgctggacc tcgtgaagat tccacccgaa 420  
 tcggctctgc tggtacagta cg 442

<210> 1599  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-B10  
 <400> 1599

gaatagacgt cctctcactg cttctgtctt gaactatcca tggaagtgtg tcatatcaag 60  
 ctggcaggac gactaccgta ttggtactga gaaaacgtcg aggtttttga tgtcagtact 120  
 agcgcgtatt gcacagtgtc taaggcggta tgaccaagtc tcggtgactg tagtaagaac 180  
 tttacgcatt tcctcgcgag aattgggtcca atttgggaca taaagtcgtg acatcaacat 240  
 gtctgaaacc tgtctgtcat gcttatagca caagaactgg gtgtaaagggt cgagtaggat 300  
 actacgtgtc atatggaaac ggcaggatag acagatgaat gggatgaaat gc 352

<210> 1600  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-B3  
 <400> 1600

gcgtccgcag ttatgcactg ttattaagga aattcttggg gacaaagtgg agaaggtggt 60  
 agtttccgaa agacttgagg aatctccatg tctccttgtt actggtgagt ttggttggtc 120  
 ggccaacatg gaacgtatca tgaaggcaca agctttgcgt gattcgtcct tggcaatgta 180  
 catgtcatcg agaaagataa tggaaattaa tccaacaat gccatcatgc aagaattgcg 240  
 tcaccgtgtg gaagcagaca agtcagacaa gaccgtgaaa gacttggtca atttattatt 300

tgacactgca ttgttgactt ccggattctc tcttgacgat cccaacgttt ttgcctctcg 360  
tattcatccc atgattaa 378

<210> 1601  
<211> 300  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-B8

<400> 1601

tagggaacac ttcatatcgc actgctttgt gctttcgctt cacgcatcac ctgtaaaaaa 60  
aaaatgcaag tggatgatg ttaacgcaa aaaataaagt ctttgctttt tatttttgaa 120  
aaaaaaaaa aaaaaaaag aagaaaaaaa aaaaaaaaaa aaataagaaa aaaaaacaat 180  
taagcaataa aaattgcaa acgattgttg aaattggcat ccaaataaac acatagaaaa 240  
gagtgccgaa aaacttaagc agtttagtga acagatacta gacaatcaag tcgaacttga 300

<210> 1602  
<211> 314  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-C11

<400> 1602

ccacgcgtcc gccaacgcgt ccggattttg caagtgtcgc acagcattat gactattcaa 60  
agtcagcaac gatcaaagag tgaatctcaa caagttggac taacttcgat acctaacagt 120  
ttgtcggagt tcattaaaaa gttggatgac tcggaggagg aacttttagc cgttgcaata 180  
gacagcagtt caaggctcca agaatggcga acgaggagct tagggaatcg agagaaagat 240  
tcttatcatt ccgggaagag gggtcgagag tttgaaagcg ccgactggaa gcctatggag 300  
aagctttcta gaac 314

<210> 1603  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-C2

<400> 1603

tcaccagtgg aattcgtgcg atggtggatg tgaagccaca tgacgcagtc gttgcatgtc 60  
aattatgcat caacatttgg cattgcaagc agctatgaaa ttagcatatt ctacgaagaa 120  
ctatctttat gcgctgaaat ttgccaatcg attgttggag ttggcaccga atgaagacat 180  
ggagaatact gccaaaaaag tgaagcagtt ttgtgaacgg aatccatcca atcaattcga 240  
aatagagtat gatatggaca acaataactt gcagttggat gctggtagat tgaaaccttg 300  
cattccaagc aagagttgtg tacattgtgg tgcttgttac gattccagtt ggcaatcgac 360  
gacttgtacg gtatgtcaag 380

<210> 1604

<211> 308

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-C4

<400> 1604

acgcgtccgc acacacgtcc gactcttgc actttcttat ccgtttatgc caattggggc 60  
tttataaata ttgaaggagt tggctggggc tgggctgcaa ctgcctgagt atggaatgtt 120  
gtttggttcc ttccttgtga tttgtgaag attggagttc gtaccactat tttgtccatg 180  
cgatacacat aatgctcttc tagattatth aagaagctct ccataacgag gctcttgcgt 240  
cattttcgcg atcatgatga ggaagagtca gaagaatgtg aggatgagga tgaacattat 300  
gaatatgg 308

<210> 1605

<211> 337

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-C6

<400> 1605

aagacgcgtg ggcggacgcg tgggcggacg cgtgggagta gaagaacaac gagaaaggaa 60  
acaactgagt atcaggaaga aaacagggag tagatgagga aagaagatc aaggaagtaa 120  
gagtaagaga aggagtaatg tgaatgaaag caggaaagta tttgacgaag agagtgtaaa 180

gcgcgtacct tttgcagaat gtcccaccga gtgagcgagg aagcaaaatg agagagccgc 240  
atctaccag gtaagacccg aagctagttg atcttatgct gtccaagcga agtaaggctg 300  
aaccattatc tgtgcaaaag gatttggaag agatggc 337

<210> 1606  
<211> 90  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-D11  
<400> 1606

ccacgcgtcc ggtaaaaaga cgtcgtttgt gagtccaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaata caacaactca aaaaaaaca 90

<210> 1607  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-D5  
<400> 1607

aaaatgatgt ctgcgccctc agattgtagt attattggaa acgcagtaga tcagaaggaa 60  
ctttcattta cctgcaacca gtattgacga tcgacagatt cacacagtta tggatcgtcg 120  
tacaaaaaca tggcctttga tgcattggaca atcaatcttg tctggaatct atcgggcaaa 180  
atgacttcaa ggaccctttg ctgacatgat agattttcca tccttggtat gcaaaaattc 240  
cattcatgtg aaatacagtg ttctagcttt gtcgcttgat ctgagattca ttactaggat 300  
agcagcctct ttcaatgcct tcttgatgac acatcttcca tgtctatggt gtagaatatc 360  
tgcgacccgt gttact 376

<210> 1608  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-D6  
<400> 1608

cacacgcgtc cggaacaccg caggtggcag tctcgggtg catgtaacga gttgcacacg 60  
 tccttgggtca ccttcgtact tgcaagccgt ctttcgtgac tggaaacact tttacgatca 120  
 caaaaagaca actgtacact tacacaggcg tgggtgctttc tcttgtaacc acagtcactc 180  
 tagcaaacaa cagcgttttag gaacctttgt agcaaataca tcgtcgtcga aatatatacc 240  
 ccaacgcctg cttatgaacg acaaaggctt attgaatact ttttctagat cccctttgga 300  
 tagactcaac aaccatagga accaggcctc gttagtgtgaa gagtgtgaaa agtccaacca 360  
 agtgagatac gtcattattct ttcaacgtga accactgtta aaactacaag tggaacaagg 420  
 tcattccagaa ggaaccg 437

<210> 1609  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-E10  
 <400> 1609

ttccgggtgc acccacgcgt ccgcacacgc gtccgtggaa aatacagaaa aacgattgca 60  
 gcgttgcctc agtttgtacg tcgttttatg ttcgagaaaag cctgctttgt tgatatcgtt 120  
 gttacaaata ttggaacaga attgtgatga gcaagtgatt gatttatgga agacatatat 180  
 acctaacttg tcgagaacac tttcagagga ctctccagaa cttgtagaga tagttgcca 240  
 tcattctccc aaagtagctt cttttgtatt ggagctgttg gatagtctga tggaaaatgg 300  
 gaaaaagcca agtccgcaag tactggaagc tgctctcaag cattttcagg atgcttctca 360  
 gcctttatgc gatgtgagat atgcaaattc ttttatggag tccttttcc 409

<210> 1610  
 <211> 343  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-E11  
 <400> 1610

tccggggcca cccacgcgtc cgccaacgcg tccgtaatt ttttagcagt cacgtggatt 60  
 ccttacactg taaaaccgca acgaaaagtt ttttgatcaa tacagtacaa tgtagaacia 120

caaaattatc tgacaagcac catttggttca attttgcac tgctgtgagg agaacaactg 180  
gagtttccaa agtaccaata cagtcttttg gatataatctt ctcccttcaa gaatacataa 240  
acaagtagcg aaaaaaacac tatccgcaaa aaaaaacagg ccaactcacgt gccacagcgg 300  
ctgccaccca acctcacag cccaccttc gttttttttt tgg 343

<210> 1611  
<211> 199  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-E4

<400> 1611  
gcggagcggg ggggttggtt tcttttcac aacgcttcgt tccgttactt tttgtcgtga 60  
caacttataa tataaaatgg ccacaataat ccctgtgtcg tcagcgggtg agctaacttt 120  
aaccagacac atagcgggcg gtaatgagca tggtagcagc tgttctatcg tagttcacca 180  
gtcgcacatc ccagacact 199

<210> 1612  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-E5

<400> 1612  
aattggtttc gaagcaaact gtttgaggac tatattagt acttgaaact caggggaaaag 60  
gaacgtgaac gacaagcaaa accttggtga acacaacaag tgagtagggg ttttgtaatg 120  
tgtgtaaccc tcaacgctgt tagcgagaaa gacgagcaac ttaaaactaa aagagctata 180  
gagcagcaca actcggagg agctcgcat tttgtcaga atgcaattag aaagatgacg 240  
gaaagaatga actacttaga gtaagctcca agactggacc ctgtcgtg taagctgcag 300  
tccaccatca tagttcatat cataagcaaa gatattggac acaccgtgc gagc 354

<210> 1613  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-E7

<400> 1613

gaaatccgtc aggtatcctg taagcttcac tgcaagaaga taggacacag gttattgcac 60  
ttctaagtca acttctgact aatcgagtgc caaaggaagc ttaatgagat ccatatagag 120  
gtctatcgtg ttgactatca tgtgcgttgt tattcgtgtg cttactcatg ttttgacaca 180  
ggtttgagca aatcgttggg caaatcgttg ttgcaaaagt tgttggcttc acttgaggca 240  
tcccaagcgt cactcgtggg ctcttttagtg gactcttttg ccacaagac tttacgcaag 300  
atcatttgca cactgatttg tgcacagcac gatgagcact ttaattcgca gttgatttca 360  
ctactgattt ctgtacagaa tgttgtcgca gatgtaca 398

<210> 1614

<211> 446

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-F10

<400> 1614

gtggcggaaa gacgacgaac ttcaaattgt ttgcttctgt ttgtaggctt agaaggtttc 60  
aaccttgcac gtcagctatg gaatattcga cagaatcctt gtctggaatg ttccactttg 120  
gaccatatct ttgaaaaag tcggtcgaag ttttctacgt gtccaaattg tcatacggta 180  
ttgtcaactt gaagcctata gtgcctggtc acgtcctagt tattccgaaa agagtagtaa 240  
agcggttttca agagttgagt cccgaggaag ttggcgattt atggcagtct gcacaacata 300  
taggtgtaaa actggaacaa tattatcaag cccaagccat gactttttgt attcaggatg 360  
gagaagctgc cggacagaca gttccacatg tacatgttca cgtgattcct cgaagaccgg 420  
gagattttta acgcaacgac caaatg 446

<210> 1615

<211> 386

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-F11

<400> 1615



caaacgcgctc cgcccacgcg tccgttttcc tttggtaoga tggatttgac tggtgcttca 60  
 gctgtttctc aacttggttg agcttcaagt cgtctatttt tagcaagcgc tcctgtagaa 120  
 aagagcaatt caaaagctct tggtttatta tccgcattac catctccttt agacgaagtt 180  
 gctttgttca cctcggcggc tggagtcgtg tttggtttcc cctatttgac tccaaaaggg 240  
 cccgatccaa agaaagacac ttggtaccag agcatcaaaa agcctgtttg gcaaccaccc 300  
 aattggttgt ttccggcagt gtggatccca ctcaaagttt taaaaagcgt tagtttgttc 360  
 ttgttatgga agaaagaagg agaatt 386

<210> 1616  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-F5  
 <400> 1616

cacacgcgctc cgcaaagcct gaacgattcc aagacggcgc agtaatcttg ttctccacgg 60  
 tagctcgctt cgacagaaaa agacatgttg agctggctac aaaaaaacca cttgctagtt 120  
 gcaatattac aagtgtcaag aatgtttact ctttatcgag tcacagtgcg tcccttcccc 180  
 taatctttct ttttcgggtg cgacgagtgc gtagacatgt cgtcttggtg acgcaaccct 240  
 ctattgacac tctaggtttc ctgtgcagcg tcgaactacc taaaacgcaa agcagcaaag 300  
 tcccaaagtt tcgactcttt ttgtttctcc cactagccat attgaaccaa agtgttttgc 360  
 accacttgcc acgacaacga atggttcact ctcggtgtgt ttctcttgac agaactcgaa 420  
 gactatttat ttc 433

<210> 1617  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-F7  
 <400> 1617

catggagaag cttggcaaag cctaagtaga aggaagaaga atagagaaca ggcccaaaga 60  
 agaagaaaga atagtggatg tcatagtatg gcagaagaag aaagctctca agtttttcac 120

gccaaactat tgctaaatca aggtccaaa gattggcttc gttcgttggg aaacttgctg 180  
gaaactttta caacggaaga ggtaaaggta gcaattcggg agttgttcac gtagttcatg 240  
tgtaggatga agaaaagttg agtactatat ctgcgcactt ggaacgcgat gctacagaaa 300  
tatcgaggtc actgcaaaaa tccaaagaag ctgttgagag tatgcaagag tctttacaaa 360  
ggatacaatc ggaaagtgc ttgattgcag cggttttaca aaaagtgc aaagtaagaa 420  
aagacgtcta gctccaagat 440

<210> 1618  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-F9

<400> 1618  
aacatatcac agagaactac agagacagtt ggaaactaca tttcaggagt ttggaacagt 60  
atttcatata gactttcatt ccatgaagtc taaaggaaat aagatgcac cggtatgga 120  
tggttctcgg aggccggata tggtagttgg gaacttgaga ggaaagagtg ccggtccaga 180  
gtttactgcg gttgttggtg atactttgca agacttggga tatcgagttt cattgaatga 240  
gccttatgca ggtgcagcta ttctaagaat gtatggaaat cctcgtcaag ggcgtcatag 300  
tattcagatt gaaatcaaca gagagcttta tttggatgaa aaaagagttc gaaagattcc 360  
tggcaagttt gaacgtcttc gcg 383

<210> 1619  
<211> 454  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-G11

<400> 1619  
cccacgcgtc cgccacgcg tccgaggacg cgttggttct ggggtgtctct cttgttttgc 60  
tttttcaaag cttgaagact atttatttcc tactattttt tagaggcttc tccagagatt 120  
ttttgtacta gtcttattcc atgcttcgtg gtgggtgaat ggctcctttg acaacagggt 180  
tgtcaattta ccgccaatct ccacagcttc aactgccaac ttgtacgcgt atatatacat 240

atatttgtac agattcgtgg tgtaaaatga agagtgcaat ggttgaaaag taacagtaga 300  
gtactagtgt gcctgtagag gaagcacttg aaaagcgggc acgtccttgt acttgtctac 360  
aagtattttt ttttgcttgt agagattgca agtttagtgt actagacaag gtttccaagt 420  
atcattcgtt gcctttaagc gcgtatgatg cacg 454

<210> 1620  
<211> 207  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-G12  
<400> 1620

cacgcgtccg cagacgcgtg ggcggacgcg tggggcggacg cgtgggcgga cgcgtgggcg 60  
gacgcgtggg ccgacgcgtg ggcggacgcg tgggtttgga agttagtact attgcagcct 120  
ttacgtgggt gaactttggt tttcacttta tcgagggcta tttgtctatt ttgacgaaat 180  
atgttggaag ggcgaagcta atccata 207

<210> 1621  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-G4  
<400> 1621

gggtccacgc acgcgtccgg atgacgatgc tcaccttatt atgtggctag aaaagtatcg 60  
tccaagcacc tttgacgaag ttctgtcaca aaaagatatt atttctacca ttttacgttt 120  
tatcaactcc tataaccttc ctcatatgct cttttatggg cctcctggta ccgggaagac 180  
ttcaactata ttagcttgtg caaaatatat gtatggaaac aacttcaggt ccatggtttt 240  
ggagttgaat gcttcagatg atcggggaat tgatgttgta agaaacgaga tcaaggactt 300  
ttgtagcaca cagaggattt ttgccactgg tgtgaagtta gttatcctag acgaagcaga 360  
tgctatgaca agtgctgctc aaatggccct tcgtcgcatt atggaaaaat atacttccag 420  
cacaaggttc tgtttgattt gtaactacgc t 451

<210> 1622  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-G6  
  
 <400> 1622  
  
 agactagatt ggccgttgca agcctttcaa cgatatagtg tcaagttagc caagagaatg 60  
 ttatcctctc gatcagcgag agaaaatact ttggctccta gaagtaatat tcaaacaata 120  
 ggagttgtag gttgtggtca gatgggatcg ggaatagctc tggttgccgc acagtatgcc 180  
 ggagccaaag tgttgctgta tgacagcaat ccacaagtca gtgccaaagc attggaatat 240  
 ataaatactc aagtggaaaa ggccgttcaa aaaaatcaac ttaataagga acagtcagct 300  
 tccatcgtag aaagaatagg acctgtcggc aacttggag cactcaagga ctgcgatttt 360  
 gttgtggaag cagtttccga aaatttagcc ttgacacggg aaattttcac caggttgga 420  
 caagtaactg c 431

<210> 1623  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-G7  
  
 <400> 1623  
  
 caccacgcg accgaaagac acgctttggt tggcttgact ttattcgagt tcctcgttgt 60  
 cgaagagcag cagtctacgg cattcttatt atgatcggtc aacagttttc aggaatcaat 120  
 tctatcaatt attatatggg aagtttgatg aacgaaactg gattatccgc ccagaatgca 180  
 gtctatacta gtatgattgg tgggtggcaca ggattccttt caactattcc tgcaatatat 240  
 ctgatggacc gactgggacg tcgaccactg ttacttactc tcattggcgg agtcgtggca 300  
 ggtttattta ttgttggtt ttcatctctt gcttccaata ttcacaccag ggaaggtatc 360  
 tacatttggg gcgttgatc cgactatctt ttctggagtt ctgctctagg tccaactcct 420  
 tgggtggttg cttcagaaa 439

<210> 1624  
 <211> 372

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-H10  
 <400> 1624  
 cacgcgaccg cagatgttta ttggagatgg cgccaagatg gttcgagatg cctttgccct 60  
 tgcaaaagag aaagctccta ctattatatt tatcgatgag ttggatgcga taggaaccaa 120  
 aagatttgac tctgaacttt ctggagatcg tgaagttcaa cgaacaatgt tggaactttt 180  
 gaatcagttg gatgggtttt cttccgatga taatattaaa gttatagctg ccacgaatcg 240  
 agtggatata ttagatcccg cttgatgcg ctggggtaga attgatagga agattgagtt 300  
 tcctttaccg gatgaaagtt ctcgagctcg tataacttcaa attcattcaa gaaagatgaa 360  
 tgttcatcct gt 372

<210> 1625  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-031-Q1-E1-H12  
 <400> 1625  
 ggtccaccac gcgaccgaaa aagcccagaa gccaaagataa ggtatcaaag taaagaaaga 60  
 aggaaaagga gaagaagaga gggtagcgtt agaagcagca aaccagagag gaaagcgta 120  
 aagcatgaaa gaaaagaaat ccgaaaaaga agagaaaaag gtaagaaaga ggaccgaatt 180  
 aaggtaagag gtacangagc aagaagagaa gagagaatgc tgggtggagt agcgaacaa 240  
 gagaagggaa gtaaa 255

<210> 1626  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-H4  
 <400> 1626  
 ggggtccagca cgcgtccgga gaaatgcgtc ccaactccttg aatgtatctc aaagagtcgt 60

ttcatgacga ttttttttga gagaaagcag acgttgggtga aatttttctgt caatttttcat 120  
acttttagtc caaagacttt tttgccactc gaagagcata tttcgcgtcc ctggctagaa 180  
cagcttttttc cactgaacta ttttcaggac gaggagggcc acgctcgtgc gacctggtaa 240  
cagtttttctt ggacacacga cgattgcgta caaatcagct ttttgtgaag agagagaatt 300  
gaatattttt ttggaggcga ggaacttttt acttctgcgc tgttcgcagg tgcactcatg 360  
aacctccttg tgttcttttt ctagacttgg agaaaagcga gtttattttc tgttgacagc 420  
tttagtgga caactggaat ttgcgactct 450

<210> 1627  
<211> 316  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-H9  
<400> 1627

acgcgaccgc agcgcgtccg cccacgcgtc cgcccacgcg tcagtcgaac taatataaaa 60  
taactagtct tctcaggttt ttacaacaca ataaagatac gtataaatac aaatcacagg 120  
gcggggggccc cccccacac ccgccccaca gggcgggggc cccaccacc cctccccccc 180  
ccccacccc cccacctccg cctccccccc cgcttccgc cccaccgcc cccgtcctac 240  
ccgggcgcgc ccccgtcgcc ccccgccct cccccacct ccccccccc ccccccccg 300  
ccccctccc ccccg 316

<210> 1628  
<211> 263  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-032-Q1-E1-A1  
<400> 1628

tacgggaaag cagtacaaga agacagagaa aggaaaaaac tgagtatcag gaagaaaaga 60  
gggagtagat gaggaagaa agatcaagga agtaagagta agagaaggag taatgtgaat 120  
gaaacaggaa agtattgaag aaagagtgtg acgcgtactt gcataagtcc acagtgaaag 180  
aaaagaaga aaaatacaga aaccacatt tcatcgcaac gataggacaa cggaaaatga 240

aagaaggaag acaacaaacg acc

263

<210> 1629

<211> 316

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-A3

<400> 1629

acgcgtcccc ggacgcatgg gatacgggaa agcagtanaa gaagaaagag aaaggaaaaa 60

actgagtatc aggaagaaaa gagggagtag atgaggaaag aaagatcaag gaagtaagag 120

taagagaacg agtaatgtga atgaaaacaa gaaagtattt gaagaagaga gtgtaaagcg 180

cgtacctttt gcataatgtc ccagcgagtg aaagaagaag canaaagaaa gaaaaagaag 240

tagccaggta agaccgaag ctagttgatc ttatgctgtc caagcgaagt aaggctgaaa 300

cagtatctgt ggaaaa 316

<210> 1630

<211> 605

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-A5

<400> 1630

cacgcgtcgg cgccttaagg gattggagtg gcttattcta tggcttttgc tttgcgtggt 60

ctagcgagtc tttcaagtcg tttgagtact tggaaacagg gttacaagat tgtaactgtt 120

gcaaataatt ttgaacgaga aagaggactg cgactgggtga gttccttcca aagtgcgcgg 180

cagtggactt cgttgcaagg tttgttatgt cgctatagaa gtgacagcgt tgtggaggga 240

gggaaaaagc aaaaggaggt cgctactgaa agaagtccgg tttctacagc cattcccatg 300

ggttatgccg atgaatattt ccatcacgtg catcgttggc gtccaggaga tccaagtaaa 360

cgaacggtag tctatttgtg gttgggaact gccaaagttta tcactgcttg tattgctcga 420

gtaataatcc tatgcttcat atatactatg atgccttctg cagatgtact ggagaggga 480

tccacagaag ttagtttaga cagtattcct gaaggaacaa ctgtttcagt gaaatggaaa 540

agaaagccgg tatttataag acatcgtaca gacggagata ttganaaggc aagacatgat 600  
gataa 605

<210> 1631  
<211> 255  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-032-Q1-E1-B1

<400> 1631

ggatcacgta aattaatccg ataaaccgag aaccttacct cctcacaaaa aggtgttgca 60  
cggctgtcca aaagaacttg ctgtgaaagt gagaagaacg tacgagaaaa gccaaagtga 120  
ggaaaagaag gcaagtanaa gggcggcccg agaaaagaaa gggcgtaaga cgtgatacag 180  
agtaggaaga aaagagaaga gagctagaaa ggaggtaaaa gaagagtaaa aggactagaa 240  
gacgtacgga attca 255

<210> 1632  
<211> 351  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-032-Q1-E1-B2

<400> 1632

ccacacgtcc ggcacgcggt ggcaaatttc attcattcta tttatagcca cttttgcaac 60  
ttgacagttt tgtagtgcga agataatggc agttaggcaa tgtttgctta ttttcatatg 120  
tctttcagct ctggttaggtt caactttggc tgcttctggt gcaacgtcta tttactcgtt 180  
gcttcagagt aaaagagact atacttttac agtccaaagc atagagctgg ctaatctaac 240  
agacgtatac aacagcagtg tattggactt taccttcctt gcttccaatg acactgcttg 300  
gaaacaatcc agagccaatg tcactgggtgc acttagtgca gcanaacaaa a 351

<210> 1633  
<211> 297  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-032-Q1-E1-B3

<400> 1633

accacatgtc gggactggag accgcctggg acagtcgtca tcgatgttgg aatcaattcc 60  
gttccagact cctcgaagaa aagtggatat cgattgggtg gtgatgttga ctttgatgat 120  
tgcaaggacg tttgcagcat gattacaccg gttcctggcg gtactggccc aatgactagt 180  
gctatgttgt tgagaaactg ttgtgacggg gccaaagaag catttgggct tgcctagaga 240  
aaaacatccc agatttcgat attaccacca aggtcgggtg tttaaaagtg tccatgc 297

<210> 1634

<211> 271

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-B4

<400> 1634

tcggcaaaca gcatgtctac tggaagaaca ctagaccgtg gattggaagg ttagcagtga 60  
atattcaaaa ggtggcaact cttctcaaga agggggttca tctcctaaat tgggtagcag 120  
tccttcaaaa ctaagcaaaa gtctcgcgc tcaagaagtt tggagtaaaa cagtgcattc 180  
ttgggggcgt tcttactcag gaaaaaacg ttatgacacc gtggagaaag acacanagaa 240  
agaacaagta tatttgagat acatgatctg t 271

<210> 1635

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-B6

<400> 1635

cgggtatgac cacgcgtcgg cgcgacgcgt ggagcggacg acatggggtg agaagtttct 60  
tttccaactt ggtggagaaa caagatggca tgatctggag ttttttctgg aagatgtctg 120  
tactgcactt gcttgtttat tttcttagaa attcagcggc ttgaaagata aagttgaaga 180  
cacttccagt actgttggtg tggaagatgg tgacaacagt cgggtggcaac aagcgttact 240  
tgaaagtttg cgtcatagtt gggaacctcc tagagaatgc gccacacatg atgacgttat 300

tgagattact tctttggaga gactgtacag agtctttgaa agatgctaac tcttttcgca 360  
 tttttttttc gatatccagt atcgtgataa acgtttctta gtcaagaaga tc 412

<210> 1636  
 <211> 125  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-B8  
 <400> 1636

gtcgctcctt tgtgtgtcgt gcaaagagcc gcataaactc tatgactcat actaccgact 60  
 tttactgggc actacgcata gatcaactgt gtcttaccat ctacgttcca acgttgaccc 120  
 atccc 125

<210> 1637  
 <211> 175  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-C1  
 <400> 1637

gcaaaggtta aaacggtttt aaatattcca ttgaaatcag atgacggaaa aaatggcatt 60  
 cttatatcat cattaataaaa ggctgaagaa aggaacgctt tgatccttcg cgtttatgaa 120  
 ccacttggtc gccactgcac tggcattatt cgactcgctc agcagtaacc tgtgg 175

<210> 1638  
 <211> 276  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-C2  
 <400> 1638

ccacacgtcc gccacgcgt ccgcaagtgg atgaaagata ctgcattttc agaaagagag 60  
 tggcaaattg aaaagacgga tcagttaaag ccaatagctc aagaactggg ttgtagtgtg 120  
 gctcagctgg ccatagcttg gtgtgcagcc aatcctaacg tctccaccgt tatcacagga 180  
 gctactaggt tggaacagct ggaagaaaat ttcaaggcag tgagtattgt tcctaaattg 240

acacccgaag tcattgagcag aattgataaa attgca

276

<210> 1639

<211> 317

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-C3

<400> 1639

acgcgtccgc cacgcatccg ccacgcgtcn gccacgcgtc cggaaaatgt taagttgggtt 60

gggtcgttgg tgggacagtc atgtagtaga aatggcttta gacaatgtta aaaatgagca 120

gatggaaaga atccgcaaga caattatttc aagggtacca gacgttccta ccgtgggttga 180

aattggagca agctcaagtc tcaatttcct gcactaccct tcttatgtga aggatttgac 240

agttattact ttacaagaag aactcagcan aagagctcga caanaagcac aacagagaag 300

tctgaatgtg catcata 317

<210> 1640

<211> 196

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-C5

<400> 1640

ggcctaagtg atataccttga gaacttactg taggaagacg tcaacgtagc ctacctttgc 60

atatcataaa ccttggtcgt agagacggag cgtatatatc tggatcaagt cgacgagctt 120

ctctttctgc tttcgtcttt gccgtcctca tgagcgtgga acgaccgcca gtatagtact 180

atacggctgg ccgagg 196

<210> 1641

<211> 249

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-C6

<400> 1641

ggaattccgg gacgaccacg cgtcggggat cattccacgt tggtaaagat agacttgtct 60  
 caaggcagct ttaaagtact ccaagactgt gacaaagatt tagaatgtga tcataatacc 120  
 aagtttcagt tggaacttat tcagtatggt ctcttttcac ctggtttttg gacgagagaa 180  
 aatgttctgc tcttctatct ggagctcgtg tcaggtgtat tcataaggga actctctact 240  
 tttcacaca 249

<210> 1642  
 <211> 596  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-032-Q1-E1-C7

<400> 1642

accacgcgtc cgcaaactgt agaacagaag acttgctaca agacagtagc agttcctaca 60  
 gagtatcaga aatattgtta caagcaagtg gaacaggagc aagttgttca aaagagctgt 120  
 cccacttatt attcagtaca aaaggtgaaa tatcagagct gccctactta tatcacgcag 180  
 ccaactatca tacccaagta ctgcagtatg tcggtctctg aagagtatgt acagcaacag 240  
 caatgtgtaa agtatgtggc tcaacaagtt atcgacccca aacaatgtgt caagtactat 300  
 accgagcaga agattcaaca aaagtattgc tctcgctatg ttactgaaga agaagtacaa 360  
 agcaagcagt gcatcaagta tgtatctctt cagaagatca agtacgagtc ttgctctgct 420  
 caatatgaag ttcaaaagat caagcagcaa caatgtacta tgacagtctc tgaacaatac 480  
 atacagcccc atacttgcta caggtatgtc nctgaacaac atttggtgcc tcatacttgt 540  
 tacaggtatt attctgtacc caagtttatt gaaaagtgtc atcctcagta tgcaac 596

<210> 1643  
 <211> 247  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-032-Q1-E1-D3

<400> 1643

cgtcggccca cgcgtccgag canatactga gaactggaag aacgtttgtc agatggagtc 60

caattggtat ccttgggtact aacgctgtgt gtncccagta atagctgctc ttttatggga 120  
gcttactttg agaatttaac tttttgtcaa gaaagaattc atacactttg ttgtagtctg 180  
gaatggactg aagcgtgttg tgttattgtt tgtaacaagt acaagaataa tacgtactct 240  
tatttct 247

<210> 1644  
<211> 363  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-032-Q1-E1-D4

<400> 1644

cggcagaaat ggcgacctct tatggtgttg tgcactcctt gaacacgagg aaaaaaatgc 60  
tccttgtccg gaaccagaga aagaagaaga aactgccaaa gtaaaaacaa cgaatgaaga 120  
tgaaagtgat gacatcgctt gtgcaacctg ttttgagttg ttggtgcctg nggatggggt 180  
tcttgaactg ccgtgttcgc atctatttca tagtgactgt atcgtacagt ggctactana 240  
ccaccaacac tgtcccattt gtcgtacttt gctgccacct tttgactttc acggtcagtt 300  
tgttttcttct cancaaaacg gacacttgat acaagtggga gaaaacggta ctcaagaacg 360  
tcc 363

<210> 1645  
<211> 522  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-032-Q1-E1-D5

<400> 1645

cgggatcacc acgcgtcggc ggacgcgtgg gcggacgcag tgggggtcagt gtaaagtttg 60  
tcgacacaaa agtagctttg tacgatatgc tggaaatttg tcgaaagcaa agtgtacagc 120  
agcggtgcaa gagcctttgt cgtttgaacc tagctcagta aattctcatg ttggtataaa 180  
ggaggaaactt gcgatagggt tagaactacc ttgtggtgca aaaagggttg aggatgcacc 240  
ttgtggagat ggtgccaaact gtccttttgt aagatatcaa tgtaaaaggt acttggccgt 300

tataccaacc tgtgtttcca actaacgtgt gacattgcat tagagggtcat attataaaag 360  
 ctataaaagg aagtcctgtn tgtaaagctt gtcctttatg taaatatgac gctgaagctg 420  
 aactttgtcc ggaacttcgt cgatgggtcaa ggaaacgttt atctgtagaa acgatgcaga 480  
 gaatagcttc ccgaacgggg tggtacctgt ctatcaacct tt 522

<210> 1646  
 <211> 451  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-D6  
 <400> 1646

cgggatcacc acgcgtcggg ctttgttggt ctgagcgaga ggcaagggtg tatcatggca 60  
 aaggcagtga gaattggtgc tgaaggttac aggttaaagt tggacggtgc agttcaagag 120  
 atagacgggtc gttctgtagt tctggtagat gtggatagta ttaccctct catgtttgga 180  
 ggtagtatga aagaaaacgc caaattgttg gatgccaagt ttctaacgaa gtattatgat 240  
 gagaacaatg acttcttctt cttgtcgact agagaagaga agacaatgtc tgtgacgttg 300  
 caacttgcca gcgaatatgc agagctggta gatgaccaat tcgtgaacgg cttcttcgag 360  
 aatgctctgg agtccgctca gaagacgtct taatttgtca agtagagtgt actgtgctga 420  
 attctgtgtg tagttgtctc tgtgtgtgtg t 451

<210> 1647  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-D7  
 <400> 1647

cgggatcgac cacgcgtcgg actagaaaga gtgaggagtg gaaaaaactt ggtttccagg 60  
 gattggatcc ttgtacagac tttagaggag gtggtttact ggcatcgag caacttgtat 120  
 attttgcaga aacgagaaga gagttggctt tacaatgtt gaaagaagcg agtgacagtt 180  
 atccttttgc ttgtgttggt attcattgta ccgcagctat tgtgcaactt gtccatgaag 240  
 actatttggga tatgttgttg tatgctgtgt ccgaagaaca agccttcaaa gtcattccag 300

aaagatatg tgaactgtgg ataggttttc atcgagttg gaagaatcag acctgggaag 360  
atagcatgtc gtttcaaata tgtg 384

<210> 1648  
<211> 234  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-032-Q1-E1-D8

<400> 1648

ggaattccgg gatcaccacg cgtcggcttg attccaattg gcaaggcgaa gatcatgcgt 60  
gaaggaaaac accttacaat ggtttcattt tctaaattag ttggcttttg tttgcaagtt 120  
gcagataaat tagcatcaga gggatatagaa tgtgaagtca tcaatcttcg ttcgattoga 180  
cctatggata ngggaactat catccgttca gtgaaaaaga tcacgtctt gtac 234

<210> 1649  
<211> 217  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-E1

<400> 1649

taacctaaat tggatggaac caatccaaaa ttggccaata ataaccttat taattcccc 60  
ttttggttg ttaaccgttg gccaaatttg ggtggtttcc tgggaacaat tggatcaatcc 120  
acaaccacca attgcaaaag gaaggaagga agaactctcc aagaaagaaa cccacagtta 180  
aacttgaaca accaaatgca acaaaaaaca cagaaaa 217

<210> 1650  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-E3

<400> 1650

tcactacgag gtttagtttt cagttgtggt gaagactttg tttagcgact tgtgtgcaaa 60  
aaatgggtcaa cttgttgtat actgatgagg gacgaaacct gttaaaacgt taccaactca 120

ttttatatgt tgctatgttg gctttctctg ccactatttt ggggcttatg gggaatccca 180  
 tgtttaaatct ctatctaatt gccaatgaat atatacacc ggatccctagc gaaccttttg 240  
 taccattga cacagtgaag aacgtcactt tctacaagtc tctctccttc tgtgcctggg 300  
 gtgtcacacg agatcgtaca cgtggcatgc attccacttg ccgatgggtc attgccctag 360  
 cttctgt 367

<210> 1651  
 <211> 150  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-E5  
 <400> 1651

cgcgtcggcc acgcgtcagc tcacgcatcc gccacgcgt ccgatttata gataaaatga 60  
 gtaatcagat cgcgtctatg aatgagcgtt tcagtcaact ttcgagtttg tcggaatgca 120  
 taggaccctt ggtcccaacg aacgttcacg 150

<210> 1652  
 <211> 309  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-E6  
 <400> 1652

attgggtggtt gggcgacagt agaggaacgg tttccacgta tactttagg aaccaggact 60  
 gtagtaactg gcttgagcaa ggtgtttggt caagtatagt tattgtagtt gtagagggtt 120  
 gttgaaataa aggggacgag ttgtgagact taaattccta tctaccgtaa ccgagggacg 180  
 aagggtgtctt tctgacagtg gacttcagtg gccgcagtgt ctcaagtttt cgggttggtt 240  
 ccgtccaagt aaccgcactg ctctgacaac ggcaattcct ctcacctgtc accgccacgt 300  
 ccaaaccct 309

<210> 1653  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-032-Q1-E1-F1

<400> 1653

cgggcttggt tgtggaattg gaatcattca acttcgtggt ggtggtggtg cctttggtgg 60  
tccttggtgt aaacctaacc cactaataac taaaatggtt cagccaataa ttgggaaaat 120  
ccacctccaa atttatggaa aaggaattct caattgtcaa tccggtttgg caaattcggg 180  
cctaatagaa aattacggtt aaaccattgg taaaaaattt tccggcaaca aaccaattc 240  
cattgaatcc aaaaatttca attaaaaaaa ccaaccagaa ttgcaaaacc tcctttccgg 300  
taaaaaagtt cccgtaataa tcctccttcg aaaaactttg gcaaacatta aaataatttc 360  
aaactttggt t 371

<210> 1654

<211> 174

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-F3

<400> 1654

ccacacgtcg gccacgcgt ccgggagaga gagagagaca gacagatggc caacgctggt 60  
caagatggcc ttgtgcaagt caacanacat agaaaagtaa agagattgca agaagataat 120  
attttgaata gagcatacac aaccagagag tattctgtct ttgaaatcat tgtg 174

<210> 1655

<211> 628

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-F6

<400> 1655

ggaattccgg aatcaccacg cgtcggccca cgcgtccggg atggagtatc cagacaagtt 60  
gctgcctttt gtgcagggtg tgaaaaagtc ttatctccta cgagttggtt acaattttta 120  
ccggaagagt ttgagtctct gttgtgtggt cctaattttg aaagatggga gatgagtagt 180  
ttgattgctg ctaccaaagc cgatcatgga tacactcatg aaagtccctgc tgttcaatat 240

ttgtttcaag ttctctcgac ttataatttg gaagagcaac gaatgtttct cacgtttgtg 300  
 acgggcactc cacgactccc tgttgaggagg ttggcagcgt tgaatcctcg tttgactatt 360  
 gtaaagcgga caccggaagc aggtcgaagt ccggatgagt gtctacctac tgtgatgact 420  
 tgtaccaatt acttgaaact tccgcaatac tcttcttatg aaattaccaa ggaacgattg 480  
 gaatatgcta ttcgagaggg tcaaggaagt tttcatttat cttgatgggtg aatacttgta 540  
 ggtcccattg gtanagactt tacatgcaat atatatatat atatacgtac atatatatat 600  
 aatgggtgtg tgtgtgtgtg tgacacac 628

<210> 1656  
 <211> 475  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-F8

<400> 1656

acgcgtccgc ccacgcgtca gggggcaagg tgtgtttgtg tgattgggtg gtagaaaggc 60  
 gcctattttc aaagagtcca acctagttag aaaacatgaa tccggaatat gactaccttt 120  
 tcaagttggt gctgataggc gactctggag tgggaaagtc ttgcctcttg ttgcgttttg 180  
 ccgacgacac ttacaacgag agttatatat cgacgattgg agtagacttt aaaattcgca 240  
 cgatagaact ggatggaaag accgtcaagc ttcaaatatg ggataccgct ggacaagaac 300  
 gtttccgcac tatcacttct tcatactatc gaagtgcaca cggcatcatt aatgtgtatg 360  
 acgttactga gcaggaatcg ttcaacaatg tcaagaactg gttgcacgaa attgatagat 420  
 atgcgaatga gagtgtgaac aaacttttgg ttggcaacaa gaatgacttg acgac 475

<210> 1657  
 <211> 167  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-G1

<400> 1657

atggttttggg tggccgcttt ggccgtcaag aaaaggactt ggtataacca atattaacca 60  
 aaatggcaaa aattaaaatt catacaaaca acaacaaatc caataaacc aataaaaccg 120

gtatcaagca acttcaaaag aaccggttcc aaggaaaaaa ggggttg

167

<210> 1658

<211> 373

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-032-Q1-E1-G3

<400> 1658

ggaatcacgc cccatggaac agatgtgttt gttcctttca agattttatt acctcttgtc 60

aaaccaaagg atatcgtttt aagcgggttg gatatctccg gctataactt ggcaaaaact 120

atggattcag cgcaaatcct ggaaccagat ttgaagaaaa acttagacca tatctagcag 180

atatgaaacc gttccttgga atatttgatg aacagtttat cgcaaagaat cagttgcctc 240

gtgcggataa cgtcatanaa acaagtgaac aagcacagca ngtttgaaat tatcgacaag 300

acattcgana gtttaagcaac aacatcagtt ggactttggt gttgtagttt ggactgcaaa 360

ctctgaacgc tac 373

<210> 1659

<211> 228

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-G4

<400> 1659

ccaacgtcgt cgagcctggg cctacgattg cctgccttct ccacatcgtg gttgtccttg 60

aaacacgttt agacagattc aaatggctgc agtaactttt acgagacaga atactgatgt 120

accgggtatc tcatacggag aaaatgctcc caacaacttt ggagttattg ttgtccacga 180

gtggtggggg ttgaacgaac tgatcaaaat acgagcacia gagctgag 228

<210> 1660

<211> 120

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-G6

<400> 1660  
 catacatatt ttgtggtttc gataagtggg tgtctaggtc gacatgtatg atcaaccgta 60  
 gcgctatctg aagccttttg atctgcctac attattgggg gataaatgag tgttacacgg 120

<210> 1661  
 <211> 121  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-G7

<400> 1661  
 cgcggtggaac agggagagga tcaggatctc acttatggaa gacgctaagc acgttatatc 60  
 caactgtgaa ctacaaagac tagcagatga tgtacaactt gacgatcaag ttgtacaggt 120  
 a 121

<210> 1662  
 <211> 247  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-032-Q1-E1-G8

<400> 1662  
 aaatagagga aagcaatana agaagaaaga gaaaggaaaa aactgagtat caggaagaaa 60  
 agagggagta gatgaggaaa gaaagatcaa ggaagtaaga gtaagagaag gagtaatgtg 120  
 aatgaaagca ggaaagtatt tgaagaagag agtgtaaagc gcgtaccttt tgcaaaatgt 180  
 cccagcgagt gaaagaggaa gcacaacgac aagaaagact agcaggtaag accgaactag 240  
 tgatcta 247

<210> 1663  
 <211> 347  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-H3

<400> 1663  
 gagcagaatg agcataccac tcgagaattg gagttatctt catcaagggt agctatattg 60

aaaaacaagt taaagttggt acagcgaagt tgggaagtag atttcagtga gattaacaaa 120  
 ttagaaaaga ttggattcgg tgcctattca gaactattta aagcagaatg gaaaaggacc 180  
 attgtagctg ttaagttgat gaaagctcaa gaaacttccg gaaaagtcct gcgtcagttt 240  
 cactaacaag tgaatacact ttccaagttg acacatccga ataatggttt aattaagggc 300  
 ccctggtgaa agccaacaaa tgtctcaata ataacggaat ttggttt 347

<210> 1664  
 <211> 289  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-032-Q1-E1-H6

<400> 1664  
 gagttgcaca aaagttaagc ttttcgcata taagtttggg agaacagttt cgattagaaa 60  
 gtaagcataa tagttggctt cgttctatcc ttgaagaagg aaaattgcta cctgatgact 120  
 ttgtgctgaa gcggtatta agtatgattg aaagttcgtc ttccaactat cgaggtttta 180  
 atctcgatgg ctttccaaga aactcgnac aggctgtatc gttgaacaat ttgtatgaag 240  
 tggatgctgt ttatcgtctt accttgcgtg aagacatttt aattcaaaa 289

<210> 1665  
 <211> 137  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-032-Q1-E1-H8

<400> 1665  
 cattcaacga taccttcaac tccaagtgat ttacatcgta aacacccata tactcatgga 60  
 atacgcttgg tatctcgac aaggatcaca ctgacactca agtgcacgtc acgtcgtgcg 120  
 acgaccgatc cgatgac 137

<210> 1666  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-A1

<400> 1666

ggaattccgg gacgaccacg cgtcggacag cttatgagaa tgccaaggct ttggcacttg 60  
ctggtgaatt ggagtcttct ggagttgtgg ttcanagcat aactcctttc ttcattacga 120  
gtgaaatgag caagatacgc aaatccagtt tggcagttcc ttcagctgag cgatttgctc 180  
gagatagttt aaagagtgtt ggatatgaag tgtcttgcaa tccttattgg tttcatgaat 240  
tccttgcaact agttatttcc tatttacctt tgaaactaca gattcgctat gtagccaagt 300  
tacatcgtgg ccttcgtgaa aaaggattgc gaaagatgtc ttctgcagaa aagaagagta 360  
aaatatgatg tgggtgaataa tccttggaga aattttgtct atatatataa atttaccctt 420  
ttttttgtat tc 432

<210> 1667  
<211> 245  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-A2

<400> 1667

ccaagcgtcg gtcttcattc accggctgta acgagcatcg aatttttgaa aaagaaaatg 60  
gaaggcttca aaaagtctgg tattcctttg gaacgcttat ggattaatcc agactgtgga 120  
ttgaaaacga gacaatggga agaagttatt ccttccttga gaaatatggg ggatgttgct 180  
gtgcaattgc gcaattctgc aaagaatgga atataaactt caataaactg ttgttgttgt 240  
tgtgg 245

<210> 1668  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-A3

<400> 1668

ccgatcgagt tcgatcgtcc tcatgtcgaa tgtttcgaaa tcaatacgat accgatgtta 60

ctacttttag tcctcaagga agacttcaca agatagaata tgcccaagaa gcagtaaaac 120  
 agggaagtgc agtagtagga gtacgacaca agaactatgc tgtgttggct actctgaaaa 180  
 gaaccacttc agaccttget tccactcaaa agaaactatt tcgcatagac gatcacatan 240  
 ggatggctat tgctggttta acagcagacg ctagattgct ctctaaatat atgagaaccg 300  
 aatgcctcaa ttataaatat gtatatgagt gtctatgcc tctttcccg ntgggtgcttc 360  
 gtgtcgcgga taaac 375

<210> 1669  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-A4

<400> 1669  
 gaccacgct cgcgccacgc gtccgcncac gcatccgcca cgcgcgtccg ctcacgtcgc 60  
 cagtcacaa ttctccaaaa ttgcgaaaag cataaatata aaagatgacc aagtgccttg 120  
 ttgatgacta aaattagttg ggtaagcaag gcaatgaagt agtcaaattt acaaagtatt 180  
 cttagatctt agaatattgt gtaaagtcgt ttttactgaa aagctcacia ccaatttttc 240  
 ctcaaatttg actctaagtc gatacctaatt gtatagaatt ccgagagtaa tggaaattta 300  
 aacaattgcy atggataaag tcagatgtta cgtaattctga gagagagaga gagaatgaat 360  
 acaaggcaaa agaatatcag catttaactg tgtccaagta caagctat 408

<210> 1670  
 <211> 448  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-A5

<400> 1670  
 aaacctttcc tttgttattg gagcctactc aagtagaaac tatagaaaca gaatataaca 60  
 aggaatttat cttgcgcgatg attcctagac tagattggaa cctgggttcga caagtaagta 120  
 aacagtttgc gtttggtgaa ctgccaccag tagctcccca caacgacaca acggatgaag 180  
 aaactttacg attgcttcac aagttgctat tggagacgca tatcaaggaa ggagttctca 240

agagtcaaga tggaactatt tatccgataa aagatggcat tccaaatatg ctcataaacac 300  
aagtcaacca tgacgagtaa agaaaaatag atatttggtt attttcaaaa aaaacttttt 360  
tggtggagtt tatgctgata ttgatcccaa aagcaatttc atcttttgat acacttctcg 420  
atgaatttcc tgggtgcgcg attcttgg 448

<210> 1671  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-A8  
<400> 1671

ccacgcgtcg cgccgaatac aagattagtt gatagttatt tagggttggt gaacactgct 60  
tctgcaggtt tattcggtta tgataaagaa caagcgagaa cgggaggttg gagagttcct 120  
gaaaaggttc tttgttccac tgccttggtt ggtgggttgg tgggaggttt tgtggctatg 180  
aaaaagtttc accataagac aaagaaacag agctttcttc aaaagtatta tgctgtggtt 240  
gcagcaaata tangaatgat aggattggtt gcagcaacaa caaagcttcg tggacacttg 300  
caacgtcttt tgcgtagatg aatgtgagag agagagaaga tgtatgcttt tcgttcaaag 360  
aatagtgtat cttgatcttt ttattcgaca agtcattata canaatcaac aacaaagcgc 420  
ttctttcggt tc 432

<210> 1672  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-A9  
<400> 1672

tacggtcgga tatccgggtc caccacgcgt ccgcacacgc gtccgcgcag cgtttgcaat 60  
ttttgttggt tgtgagtagt gtcattggcag agcaacaaag aagtgagagt actgaagtta 120  
gaagtgtgc agttcccacc cttgtataa aggggttggt gttttatggt acctcttcca 180  
ctcttgacat gtgctccaag tgttatagag aacatttgcg ccaagaggaa caaagacttc 240



aagtggagtc tgtatgtcag cagcaacaac aacaacaaca acaaaagcag gataaggaac 300  
aagaaatgac tcaggggtcc gagttgcacg acttgccttc taaaaaggag caaggggaag 360  
agacgtcngt ggaagtggct caacctagcc agggttttgt 400

<210> 1673  
<211> 232  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-B1  
<400> 1673

gtcggactga actcttttan aggatatgat tgttcatgtc acacgggagc tatattttgg 60  
gccactctan gcttggattg tgctatatcg ttgttttcta ttttatgtgc agttgcattg 120  
tanatggata cggatataaa tataaatatg catatacaca tattgatata taagagtgtg 180  
tttatgtgtg tgtgtgtgtg tagtcttgca aataaatagt attcttgtgg tg 232

<210> 1674  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-B11  
<400> 1674

cagacgcgtg ggtgaaagga gggtcgacga gctcagcttg aagaacaaag aacttgcggtg 60  
gggttggacg ttatttatga acttggactc tattgacaca ggaattaatg ctctttttga 120  
cccgtttgca gacgcctcac gtggagagga cgcagcagta accaaaaata tagtgcatat 180  
tcgcttgcaa caaagaaacg gccgcaagtg cttgacgacg attcaagggc ttgacacaaa 240  
attggatttg aataaaatta caaaggcctt caaaaaggag ttttgttgca acggttgtgt 300  
cgtagacgac gcagaactgg gaagagtcac ccaactgcaa ggagaccaga gggataaagt 360  
caaaaagttt ctagttcagg agaaatttnc tgaaaaagac ctgat 405

<210> 1675  
<211> 396

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-B2  
  
 <400> 1675

```

ccgggtacac caagcggtccg cgcgacgcgt gggcggacgc atgggcacac acacatagag   60
agagaatggc attgtccaca gtatctcaat ggctagtatt aggatataca cttttattaa   120
tgttgggagg acttgtanga tatgtcaaag cgggtagtgt tccttccctc gttgccagtt   180
tacttagcgg ttttatttta ctttatggag tatatttatt caactggaag atttgtttcc   240
taacgctcat cctgttgtgt gcggttttcc tatggcgatg gtcaaaaaca ggcaaaataa   300
tgctgtgtgt accattagcg tgtttgacag ctgtaacttg tttccttttg tggttgttgg   360
agaataataa agctacttga ggtttttcna aganaa                               396
  
```

<210> 1676  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-B3  
  
 <400> 1676

```

gtcggcacac acacatatat atatatatat atagatggat agatagatgg atagagagag   60
actaacttgt gtatatagac aggagcaatt atcaacggcc aacgtgtgga tgcaactctt   120
cctaccatca aatatatatt agaaaaagga gcacaaagca tcgtacttct tttccatttg   180
ggtcgaccag aaggaaaagt ggacaaaaag tattcgttta aaccgtagc ggaatattta   240
caacagcggg tgggtcgacc ggtcgtcttt ctggaagact gtgtggggcc tcaagtagag   300
caagcttgta aagaaccggc gcctggatct atctttctat gtgaaaactt acgtgtccat   360
gtataagaag aaggaaaagg agtagatgan gaaagaaaga tcaacgaagt aagagtaata   420
gaaagagtaa tgtgaatgaa                               440
  
```

<210> 1677  
 <211> 545  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-033-Q1-E1-B5

<400> 1677

cgcgctcgcc caccgctcag cccacgcagt ccgagcggat tcaaatttgg gatctctttc 60  
agtttattcg gacccaatga attatttttg aaaaaatcgg aagtttcgag ttccagaccc 120  
aatcctgagt ccatcttttg agtctcagat taaacgcagg cctcaaaaga aaaaacagta 180  
ttcacgtgcg tctcncgcga agttttgtca cttttgtgct cgtgctgcca gtaagaatat 240  
cagaatggtg gtttgttcga atatacgaat tggcatgtgt ctcaaagtta cctgtgaaaa 300  
gtgctttcgg cagaacagtt ggaattttga agaagccttt gaaaatccag actcgtggat 360  
atgcactcat tgtcgtgggt cgtgtcctta tcgtgcacaa tgttctcatc tatcaacgta 420  
ctaactcatc aagacgagtt agccgttttc tcatgaaaaa gcagaaagaa ttgaacgatg 480  
agtacgttga gacaagaagc tgacgataaa agacgacatt gtttagaatt cagttttgaa 540  
ggtta 545

<210> 1678  
<211> 250  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-C1

<400> 1678

actcgcacgc tcgccacgca cgaatgggct aacataagat caagacaata aaacttgaag 60  
ctcatataag aaacattaca tgcatctcac cacaacacat atgtaatgat aacacataga 120  
cgaaacccaaa tctacaatag ttagagaaaa tctaataaga ggggtaaaat aaacatcata 180  
gatagaacac tataagaaaa ctaacatttg cggaataaac agaaataata gcacaagata 240  
aaataatata 250

<210> 1679  
<211> 243  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-C12

<400> 1679

ctgctcacgc gtccgctcat ggcgcagctc aagcatccgc tcacgcttca gctcacgcgt 60  
cggcgcacgc gtgggtcact tcacaacttt tattgatata cacctcgagg ggcatgtata 120  
tttcaactct gcataattca cgggccttaa tgacttctcg tctcaaccgc aatccacttc 180  
ggctcaccta gcttctccac tttccatcac ataacgcttt catcaacttt tacgacaact 240  
cat 243

<210> 1680

<211> 431

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-C2

<400> 1680

acagacagat ggccaacgct ggtcaagatg gccttgtgca agtcaacaaa catagaaaag 60  
taaagagatt gcaagaagat aatattttga atagagcact atcacaacca ggagatgtat 120  
ttctgtgctt ttgcaacatc cagttgttgg tgaatgcaga aagagctatt ataggaaata 180  
ttacttgtcc agaaagtatc gaattgtgtc gtctattagc tggacatata gcagtttgg 240  
tcgatgaaca tttggatgac tttcgtttgg aagctatctt gggagcacta ttgtgtactt 300  
gttattgtga gtggaagcgt tttgaaggag aaatgggggt acaagaatgg aatgaattgg 360  
agaagatatc ttccttagat acttgaagc ttgtgcttgg tacaagacaa agagtggata 420  
atatgttaca g 431

<210> 1681

<211> 89

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-C7

<400> 1681

gagtcgtgat atcgagagag gataggggag tacatagatg aggagtgtcc gaaggagata 60  
caccaggaat ggagaagatg ggagaggac 89

<210> 1682

<211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-C8  
 <400> 1682  
 gtcggtcttc attgaaaata tggaaacgac gggctttggt tcacgtatc aaggtgttgc 60  
 gttacgaccg gcttggagga agcagactat ccgaaaccag caaacatata ccatattggt 120  
 cagaaaccac gcaaagtctt cgaaagttag gttatcgata gcccttttca tgcagcaaac 180  
 ttccaaggat gacgcggaag ccgagaaaca atcgagtcaa cagggctcca aaatgtcacc 240  
 aactactagg attgcagggtg atatcttttt ctttactatt actacggcac tttttgcagt 300  
 cactctggcg gctactttgt atcgctocta gcttctgcag ggtttactcc cgccttttcc 360  
 atagaccaag ttgtcgggtat c 381

<210> 1683  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-D1  
 <400> 1683  
 tccgggtaca ccaagcgtcg gccacgcgt ccggagcggg ttgaggatat acgtaattct 60  
 ctgatattag ctcgttttgt aaagtttcca tctggcagat atcggaaccg ttcttaccag 120  
 ttggacattg tggatagccc agtagaagca cttgctgaga agtggaacga acagttggaa 180  
 aaagaacaag atgaaactac tgggttgatt agcaccagat tgtcgtcgag ttggcgcttg 240  
 gcactagtgt tatatgtggc acagacagtg ggaagttgta tgtacagaga cttggacgcc 300  
 gttttacaga aaatacttgg catatcggtg gagagtgatt cttcaacgtt tcctctcgt 360  
 ggcggaccgc gtgactcgga gttttacttg taaagtgttt cttttt 406

<210> 1684  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-D11

<400> 1684

ggattcaagt gcagctggta taaaaggtaa agtttgaaag ttatagagtc ttgacagttt 60  
gtgttaggat tatctcgtca gctttccaac ttgcctcgta ttatttctct tcccagtcgt 120  
cacaaaagga agaattattca gccaaagcat agcgtcacaa cagctagtgc aaaacgggtg 180  
gctgtcttgg aagggtgatgg aatcggtcct gaaataatgt cagtgcacttt agacgtgttg 240  
gaagaagtaa cgaggctttt caagtttccc ttaaagtttg aaaaggctcc ttttggagggt 300  
gctgctatag ataaaactgg tgatccgttt ccaatagaga ctcaaaactt atgtttatca 360  
agtgatgctg tgttattggc ttgtaatggg ggctat 396

<210> 1685

<211> 313

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-D3

<400> 1685

tgtcattgaa agcaccgttc acgttttagtc tatcacctgt gcatgtcata agacaacaac 60  
aactgtacaa tctgatactt gaatatgcac gaagaaaagg aatacacaga tttgttgaga 120  
tgaatggcaa atggtggata tattctacga cacctccac tcgaaaggca ctgcggtatt 180  
ggtatgacat ggactgcgtg ctgtttaccc cagtcaatga cttacaaacc gccaaagctt 240  
atgcgagaag agtagggcaa gcattggaca ccacacctac ggtcgaattg cctacaccag 300  
atatttgtgt acg 313

<210> 1686

<211> 331

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-D4

<400> 1686

gtcggccac gcgtccgggc cttaaggat ttccggaaaa ggcgctcttg tattttgtgg 60  
tggaagaaga gagagagcgt ggccaagaca agtatgggaa ggaagaaaaa ggcgccacag 120  
acagatattg tcgatcgaat attttgctgg tattgtgaca gagactttca cgaggagaaa 180

attctcgtta gtcaccaaaa agaagagcac gtcaagtgtc agtggtgtaa caagccgctc 240  
 atgtccgtaa acggacttgt ggtacatgct caacaagtac acaacgacga agtgacgcgt 300  
 gttctcaacg cactagaacg catggactct a 331

<210> 1687  
 <211> 257  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-D6

<400> 1687  
 aaataaaatt tgaaagaagt aggagtgtag gggatattat aaagtaatga aaaagataag 60  
 aatataaata taaaagtaaa tgtttataag agaagataaa tatagaagat gtangtaagt 120  
 agaaggaagt atagagatgt agagagaaaag aataaaaaaga agagtttatc agcaaaatac 180  
 cataatcaaa tacacacata gaacaacgta taagagttaa atgaaacata acacaagatt 240  
 agaatgtaat acaacat 257

<210> 1688  
 <211> 323  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-D7

<400> 1688  
 caacagcatc actacacgtt gttgtcact tgttggtggtg ttatgtaatg gtagccatgg 60  
 gcaaccaccg tggagaagac ttatcacgt tgggggaacc agtgcacgt ttgagcgtgt 120  
 cctcgatttc taacgggcgt caggtatgtg ccaactgcacg tccctttgat aatgcgagtc 180  
 tggagattca gtacacgcaa ctgccaata acaacgtacc tgtcaagctc tgctcatccg 240  
 tgggtgtgata accttcatca tccctgtaca caaggccctt gacacagtgc tccggaatat 300  
 cgacgagacc cagatacttc tcg 323

<210> 1689  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-D8

<400> 1689

atcaactgat ggagtggaga ggggtcaaagt ttatagtcgt ccaaaagttg cagttttttc 60  
cactggaaac gaacttgtag atattggaag tgtacctgct tttggagaga tatatgatgc 120  
caacagacct cttctcctag cagcgcttcg tgggttgaat atcgatgtac tagatttggg 180  
tagtgtgggg gactcagaag ctcattattat gaagactttt gaaaacgctc tggaagtggc 240  
ggacatcggt gtcactattg gaggcgtttc catgggatgt cagactata tacagatatt 300  
attacaacga ctggctaaag tacactttgg tcgagtcaga ctcaccccg gaaagccggt 360  
aactttct 367

<210> 1690

<211> 382

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-E1

<400> 1690

ccgggactga ccacgcgtcc gccacgcgt ccgggagaag atatttggtc gcattcgctt 60  
tgtttaggaa caaaggaata cctagagaca gacacaaaac tattacctac aggcagaatt 120  
ctgcaagccg agtctaaatc gtatttggac tttaccgaag aaaggctcct aaagggacct 180  
cctaaagaag agtctggaat aagaaatggc tatgatcact tttttgtgtt cgataagact 240  
ggaccgaaat cgtcattaga atggatgagt acagttcgtc atgcggagtc taaaagaact 300  
ttgaaactct atagcgatca acctggtgta caattttata ccggcacgtt tcttcaagcc 360  
tcaactatgt gtcgctatca tc 382

<210> 1691

<211> 183

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-E2

<400> 1691

attgaaaatt aacctactga agcacataaa gacaaaaaaa atacataacc acatattacg 60



cacatagaca tcgtaaataa aagaaggaag acacataacg accaacaata ctaagaaaga 120  
gaaagaacaa gaaacaagtg acaagaaaca acaatagaaa taaaaaaaaa aaaaagcgcc 180  
caa 183

<210> 1692  
<211> 308  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-033-Q1-E1-E5  
<400> 1692

tggaacgatg aagttccagt acgttagtcc ttactggct ctcttatgcy tatgttctgc 60  
tctggctgct gaattggcac ctgcaattgc ggattaaccg gtagatagag gatatgagga 120  
accctgctgt accgaatatt gttattggga tgaaatatgt atcactccca cacgcagacg 180  
tacacgaacc tactattacc attattacac aagagatgca gcataggaaa ctgtccatag 240  
aatcgtagaa aacagtacct catcagttta aaaatctgat gcggttcgag ggtatttcac 300  
cacatact 308

<210> 1693  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-033-Q1-E1-E8  
<400> 1693

ccacgcgctc ggcccatgcy tctgtgaaga aaccaaagag accttattta gctatcttgg 60  
gaggagccaa agtatccgat aaaatacaac tcatccagaa ttattacaa aaagtggatg 120  
aaatgattat cggaggtggc atgtgttata cttttcttcg agtattatat tccatgccga 180  
ttggagactc catttatgac gagcctggat cacatttggg agaaaatatt atgaaagaag 240  
ccaaagaaag aaatgtaaag atacattttc cagtcgattt tgtagtagcc gatcgtatgg 300  
ctcccgatgc acatacagag atacgtatca gagaacaagg tattcctgag catatgcaac 360  
gactggattg tggaccacaa agtattcaac aatttattca agtactgcaa cattgtaata 420  
cactagtgtg gaatggacct ttgcgtgtg 449

<210> 1694  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-E9

<400> 1694

acgcgtccgc agacgagtgg ggggtggttg ggacgacgcg tctcgtgcgg ttttgtgtga 60  
 tatttgaatg gcgaccaaga gaataaccaa agagttgcaa gacttgggta gagaccccc 120  
 ttctaacggt agtgccggggc ccgtagggga cgacctctgg cactggcaag ctactatcat 180  
 gggccctcct gactcgccat atgctggttg agtgtttttc ctcaatatcc attttccaac 240  
 cgactatccg ttcaaacctc ccaaagtgca atttaccact cgtatatatc acccgaatat 300  
 taactccaat ggaagtatct gcttggatat tcttcgcgac caatggagtc caccactgac 360  
 tatctctaaa g 371

<210> 1695  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-F1

<400> 1695

ccgggtacga ccaagcgtcc gccacgcgt ccgaaagcac tatgaaggct gggaggaaac 60  
 tgtcgaatat ttgaggagtg tgtttcgttt gcagggtcct tttgaagggtg ttttgggatt 120  
 tagtcaagga gcagccttga gctctctcat ttgtgctatg aaagaacatc cagaacttgg 180  
 ctatggagaa ttttcttgca tccgatttgc ccttggtttt tcagggtttcg tttcncgtgc 240  
 agaagagcat ttgccgttga taaaaacaaa aattcatact cctgctttga tttgctacgg 300  
 aaaagctgat gatctggttg acgcttctcg aagtcaagat cttgccaaagt tgtttgtaaa 360  
 cgctaccata ttggaacatg aaggcgggtca tttgggttct tctggagcat ctgaaagaga 420  
 acaaattact cgctttgtct tgcaacatgg tg 452

<210> 1696

<211> 375  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-033-Q1-E1-F10  
  
 <400> 1696  
  
 cgcggtccgca aacgcacccg cccacgcgtc cgggtgctag aaatatcata gtagaccac 60  
 gtattgttcc aggaggagga ggcaccgaaa tgtatgtttc caaggcactg gcagaaaaag 120  
 ccaagtcttt ggaagggtgtt attcagttcc cttataaggc agtttcccaa gcaatggaag 180  
 tgattcctag aacgttattg gaaaactgtg gggcgaacgt ggtgcgagct ttgacggaac 240  
 ttcgtgcaaa gcatgctagt ggaaaggata tcccttgggg tgtgaatggc caaacggag 300  
 acattgtcga catgactcaa tatggaatct gggaacctta tacggtaaaa gttcaaactg 360  
 tgaaaactgc tgtgg 375

<210> 1697  
 <211> 312  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-033-Q1-E1-F11  
  
 <400> 1697  
  
 cacagattcc tggtgatatt cagtggaaga tttgtcatta tatggaagta ttgtgtgaag 60  
 aatcgcccaa agttcccggt gcagtgattt taaaagtatt ttacgatgaa gatttggttg 120  
 aagaagatgt gatattgaag tggattact ctgaaaacag aggagtggga ggaaagggtg 180  
 caaggaacaa tgcttctatg ttggttgagt gggtggagaa tgctgaatca gaaagtgatt 240  
 cttcagcctg attgtgttgt tatgtgagt cttgtttcgt gaaataaaaag cgattccttg 300  
 ttttctgcac cg 312

<210> 1698  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-033-Q1-E1-F2  
  
 <400> 1698

tgtagcggaa tggaaaacgg cgtacaacgc aacgtttttg ctcaaactgc tgaagcagta 60  
 aacgacaatt ccattgctgg acacaccaag ggtacttttg cagtgaaagt acggtcggct 120  
 cagatgctga aaggtggagt tatcatggac gttgtaactc ctgaacaagc caaaattgca 180  
 caggaagcag gtgcttgtgc acttatggcg ttggaaaaca ttcttgccga tattcgcaag 240  
 tctaattggac tggcaacaat gtccgacca aaca 274

<210> 1699  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-F3  
 <400> 1699

ccgggaggac caagcgtcgg ccgacgcgtg ggtggagcca tgaggatgaa tcaagtgatt 60  
 gcttagttgt gtgaaggaaa taaaatattt gaatgaaaca gtcgttccag ttcaactttc 120  
 agccaacaac gaataacagt aacaacagtc atagccatac tcttaacttg gaacaaaaca 180  
 tcaaagactt gaatattgta tctagcgaca gcttattcga cgtggatcct tgttatgatt 240  
 ccgaaaaggt tgttatccac gattgcctta ctttatggaa gagaaaatcg tccagccttg 300  
 tcagcaaata ttttggagtt gaacaggatg ttataacggg tatttatgaa cgtgggtttca 360  
 agctttggga aggtgctatt gaccttgtaa agttcctcga tactatcaat a 411

<210> 1700  
 <211> 190  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-F4  
 <400> 1700

cacgcgcccc agatcaaaga gtaacacatg cacgtaggta tagcgaacgg gtgagtaaag 60  
 acgtgtgaaa gagtggacga acatgaaagc acagaagaat gtaagaaatg gttagagtca 120  
 agaccatacc tgacgtaaaa gcgggaatct gagatgacga gagccacatt ggactgaga 180  
 aaaggtccaa 190

<210> 1701

<211> 90  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-033-Q1-E1-F5  
  
 <400> 1701  
  
 acccacaacg acaacatcat gataaaggga ctttctcaac gctaccatcc ttcacacgtt 60  
 accattggga tccctaacat cgtcaccatc 90

<210> 1702  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-F6  
  
 <400> 1702  
  
 accacgcgtc ggccttgenc gccatgcctt gagttgtatg aaggctcaag tttgtgaaaa 60  
 aaaggaaccc attttgaaag aagaagtggga cgacataccg ttatccaagt tatggaaaga 120  
 actacacaag tctgaaatca aaggctcgac ggggacaaag gaaccaagga aaaaggaaac 180  
 gaagaaagga gcaacgtcaa agaggactct tacaagggtc tgtggaaagt cagcttcgcc 240  
 caaaaagaag cccaaggtat cgaaggaaag cgatgacaaa ctcgctagta agaaattttc 300  
 caatcctggt caaagaagag aagcacctcc gaaaggagac cctcttcgat tgttctatga 360  
 aagtatgtat gaagaaaaga aacgaaaagg ccaagacgca acacttgcag aaaactggct 420  
 tctgattcac 430

<210> 1703  
 <211> 228  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-F7  
  
 <400> 1703  
  
 ggaacgctct gttgattgaa tgttttcatt ctaatttctt tgtagtcgac accattcgag 60  
 ggtttggttac actgactggt ggtgencctg ttttagctct tgccgctagt ctttcgtttg 120

cgcattatta tcgacgcata agtatgccga tttgtgcaaa cgaagacaca tttttcgagt 180  
 gaatgcacaa tgtttgcgac aataaagaat agttgtgtta ttcgttgg 228

<210> 1704  
 <211> 443  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-G1  
 <400> 1704

ccgggacgac cacgcgtcgg acacacaaga caacaatgtc tcgtcacaag tgtttctttg 60  
 atattgctat cgggtggacaa cctgcaggaa ggattgtatt cgagttgttc tccgatgtcg 120  
 ttcctaaaac cgcggaaaat ttccgtgccc tgtgtaccgg tgagaaaaggg tttgggtaca 180  
 aagactccaa gtttcatagg atcattcccc agttcatgtg ccaagggtgga gactttacac 240  
 gcggcgatgg aaccggtggc aagagtatth acggcaccaa gtttgaggat gaaaacttca 300  
 agttgaagca ttcggagccc tttttattgt ccatggccaa tgcgggaccg aattacaacg 360  
 gaagtcagtt ttcaatacgg tagtgaaaac accttggttg gatggaaaac atttggtgtt 420  
 tggaaaggtt gtaaaaggta cgg 443

<210> 1705  
 <211> 353  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-G10  
 <400> 1705

cgagtggctg gattcctacc gttgcagact atcgcgtggt gacttctgtg gagaaggatc 60  
 aaactttgtc caaaggagcg gagatgcac aagaagagtc tgcataaagg actatthttg 120  
 tatagttgcc atcatggacg gtttgtgtgg aaagttgtga ttgtgtagag agtgtgtttg 180  
 tgagtgtgtg gtggtattgt tgthttacgt ctttgtgagt gaccactcgt aggagtgtga 240  
 tgaatcctca caaagatgat agaagacaat aaaacgatgt tgthtttgga taaaaaaaaa 300  
 aaaaaaaaaa tttthttttta acaaaaaaaaa aagaacaaaa cgcgcattca gac 353

<210> 1706

<211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-G3  
  
 <400> 1706  
  
 ccgggatacc aagcgtccgg cgaagagaaa tgctgggtgg agtagcgaaa caagagaagg 60  
 gaagtaaaag gtaagaaaga ggaaagggtt acgagagaan gaagtagaaa gaagagagtg 120  
 taaggcggcg tcataataga aatccgaaag gagtacaaga aaagagagag aagaaagaaa 180  
 agaagagaaa agccgtactg aagaccgaca cagggtactcg angagaaagg agaccacat 240  
 taaggtgaga gaatggacga taaggaacta agcaaaagga tatggtatct gcggtacgct 300  
 tagaagcagc anaccagaga agaaagcggt, aaagcatgaa agaaaagata tccgaaaaag 360

<210> 1707  
 <211> 146  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-G4  
  
 <400> 1707  
  
 tcaacttgga atagttttca cgacancact gtcactcaac taattttctg tgctgactcc 60  
 attcaatgac gtttctgaat atgacttccc ccatataacc acgtctcatc agataaatac 120  
 atctattgcc aaactctgat tcacat 146

<210> 1708  
 <211> 463  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-033-Q1-E1-G7  
  
 <400> 1708  
  
 accacgcgtc ggcccacgcg tccgctttga aactccgttt cttgatatga accgaggtct 60  
 ctatcatgaa ccagaatata gtcttccgga atgttacaaa atggaacaaa agccgccatt 120  
 attgaaattg ggtcatttta ggaagtttca attgcaaaca ttattttata tattttattg 180

tatgcctcga gatgcattac agatacttgc agcagcggaa ctttatcaaa gagattggag 240  
 ataccacaaa gacttgaagc tttggtttac aagagcacct ggaacaacta ctccaggata 300  
 tgaacgaaat gcttttatct actttgatat aactacatgg gaaagaaaac cttttcatga 360  
 aacgaataga aacttcttgc aagggtttct tcctcaaaat gtgattacgg aagctgtgga 420  
 acatttagta aattcctctc attcgtcgtc ctaaaatcga gaa 463

<210> 1709  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-G8  
 <400> 1709

gcgtcggcac ggattgtaat tgttgtatgt tgttatgtcg gaaataaagg tttccaacaa 60  
 tacggaaaat aatgttgaat acttggaaaa tactgcacac gatagcactt atttagacga 120  
 agctgacgtc gacgcggaat tggaagcaat gaagagtaga ctacaagaaa tggaagaaga 180  
 agccaatcga ctgagagaag ttcatagtac ttctgaagta ctttcttcag aagaagtaga 240  
 ccgacgtcga gtatacgtgg gcaatgtaga ttatggttcc actccagaat aacttcaggc 300  
 acactttaag gaatgtggga ctattaatag agtaactata ctatgtgaca agtttactgg 360  
 ccatccgaaa cgatatgcat atatat 386

<210> 1710  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-G9  
 <400> 1710

acgcgtccgg cactcgacga ttgtcatttc caacaactta tttccaccgt ctgtcaagga 60  
 aaagtgaatg tcgtgggtcgt caatgctcat acgttttgta cacctcaaca agtaaccgag 120  
 aaaatcgtac gaaacagcaa gtcaccgttg gaaataagat acgaggacca ggatcatcaa 180  
 ggaggcaatt ggtttctttg tgctttggac caagactgct atgtacaaat ggcaaaggt 240  
 gctaccgatg aagaatggct tcaattattg cgtcgttggt tgccgaagaa ccaaccaacg 300



atggatagga tatgccttcc ttggatatcc caccagcatc aagtgcccaa ctatgtatat 360  
 caagcttata agcgattggt ttgttttgcg ctatcttccc aaattgcc 408

<210> 1711  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-H1

<400> 1711

ccgggtacga ccacgcgtcg gggcgtgact tgacgacgtt gggaaccaca tggttcatct 60  
 atttctcagc aataggcatt cttcgaaaac tcattaggaa acctcacctt ttacaacctt 120  
 ttgtgttttt ccacaacctt tttctggcag ttgctagttt atggatgttc ctaggtatct 180  
 gtgtggctct aaagaacact tggatggaag gcggcctgaa agctatctat tgtcnccact 240  
 ctataaaaac ttccaacca ttgacctcat ctttttactc atcttctatc ggttattggt 300  
 tgtatgtctt ctacttgcc aagttttatg agctactgga tacttttata ctcattctgc 360  
 gtggaaagcc actaacgttg ctacacgtac t 391

<210> 1712  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-H3

<400> 1712

ccgggtacac caagcgcccg gactagttct gttgaattta tctgtatcgt ttacttgtct 60  
 ttttgttgag ttatcatggc acgaacaaaa canacagcac gcaagtctac cgggtggaag 120  
 gcacctcgaa agcagttggc aaccaaggca gcaagaaaat ccgcaccctt aactggagga 180  
 gtgaagaagc cccatcggtt ccgtcccgtt actgtcgccc tgagagaaat tcgcaagtac 240  
 cagaagagca ctgaacttct taccgaaaag ttgcctttcc aaaggttggt tcgtgaaatt 300  
 gctcaagact ttaagacgga cctacgtttc caaacttcgg cgggtgactgc cttcaagaa 360  
 gcctcggaag catacttggt cggtttggtt gaagatacca atctttgcgc aattcatgcc 420

aagcgtgtaa ctatcatgcc t

441

<210> 1713

<211> 214

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-H4

<400> 1713

tacctcagtt agactgggag tggcaccgaca aggtgggttc ttaagtaaac attttctaaa 60

cctgtctgta atagttgctt tcaattgcag aagttagcct ccgcagggtt ggataatgtg 120

agataaacia caagttgtgc attgtgtgtt gtgagacttg cgaaaattgt gttttgtgtc 180

ttgtaacatt ttatataaac acatattatc tatc 214

<210> 1714

<211> 239

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-033-Q1-E1-H6

<400> 1714

catgaattta acgatgtgta ttagtttttc nectgggttc cgactcctgt tggtagcaca 60

acttggttgc ttctcttatt ttgtcaaagc agtcttcttg ttcttcttgc gtccagtctt 120

ttgttcgcga ctagcctgct tgatttgcct tttaaaaaag ttatagagtg atgtatccgc 180

ccctatttgc tgtgttccct tgaacaaaga gatagggttg ttaaagcaag acaaggaaa 239

<210> 1715

<211> 494

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-H7

<400> 1715

ggataccggg acgaccacgc gtccgcccac gcgtccgccc acgcatccgc ttttgtatct 60

catcgtttgg gctgtaaatg ttgctaattg aacaggaagc tgggtgtgagc atggaagtgc 120

ccactattag tgctgcaaaa catgactctg aagatagcca cgaagaagtg aggaagcggc 180

tgagtagagt aagcgctcca cggtttcccg atcctacttc tctaggatta tctggtttta 240  
 gttgcacaac tttcattctt agcgtaatga atgccaaatt attgccagcg aggattgtac 300  
 caggaattgt agggcctgcc tttttctatg gtggaacggt acaaatgttg gcgggccttt 360  
 tatgttttgt cactcgtaac atgtttggat tgggtggcatt tacttcattt ggagcttttt 420  
 ggcttgctgt tgctactttg atcactttgg aagaagaacg aaaactcgtg ttcggaacag 480  
 atgccaacca agtc 494

<210> 1716  
 <211> 349  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-H8  
 <400> 1716

gcgtccgccc acgcagtccg cccacgcgtc cgcccacgcg tccgcggacg cgtgggcgaa 60  
 aaagtaagat tgtgcttggg aagtggataa gccatcgta tatgcggagt tgagagaccc 120  
 cacttgaaga ctaaataaac caaagggact atcagtagca ctatcgaga aaccataccc 180  
 ctgcgtgaag ccatacctg gatttcctgc gtcaaccact gaattcagcc cgactgctcc 240  
 aaaatatgga tcgttgtang gctgcacata ctgttgtgcg tanggcagta cagcagtatt 300  
 tgaggggaaca nattcacagt attcgaagtg agggattctg cttgagaca 349

<210> 1717  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-A1  
 <400> 1717

ccacgcgtcg ggcgaaaaan aaagaatgag tggagtagta caaggagcga agatgatggg 60  
 agcaggaatg gcaacgatag gtttagcang agtangagca ngagtgggaa tagtatttgg 120  
 aagtttggtg aatgcatatg caaggaaccc agtattgaag cagcagttat ttggatacac 180  
 gatattaagg tttgcgttaa cagangcagt angactgttt gcattgatga tgagtttttt 240

gatactgttt tcatagtata cgagaaacaa gaagtagaag agaaataaaa gagacagaag 300  
aagagttatg agagacaaga tggaagtaat agaagtggta agtggagtaa taatgaatca 360  
tatgaaagaa ggaatggaga atata 385

<210> 1718  
<211> 515  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-A2  
<400> 1718

ccggtataca acgcgtccga cagttctgtc ctgccagtac gatgctttca aaggatgact 60  
ctaagaggta tctaataact tgtattttcc atcgtatgac aagaggcttg ttggaaaaaa 120  
gcagcggata acttttgtgc tgattttgcg tcttgcttaa gtagctcgct ttactggttt 180  
caaatcttgc agtcatcagt gcaaaacatt ccactaggaa tttggactga tcgactaagg 240  
caagatgcgt gttgttttgt tgccgggttcc gttgttgttc tttgcctgta ttcggctatt 300  
ggttccaggc cctcatacgt actttctgta agagagagtt cttgaaagat gaaagggatt 360  
tgcagtaaca gagtcacaaa cagttgtgcc aactccttca tccaattgtg tgttctatca 420  
attggaatat gcagtcaaca ttgtgtaact tgatagaaat ttaccaaaga ctacttttgc 480  
gatgaaataa taatgaaaca cagagttcac atatg 515

<210> 1719  
<211> 244  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-A4  
<400> 1719

gcgtcggcca ggccctccgct catatacttt atgcttggac aatggttgca aagactgctc 60  
tgagttgcct ctttctctcc ttccttatcg ctgccgcagt tgcagccac gtactttcag 120  
aggagagatg gggatatgct cagcacaccc aacaacagca acagtgccaa caagtatgta 180  
aacagtatgc atactaccag agtcgagtcg gcacttccgt aaccacagac agcccatact 240  
ggaa 244

<210> 1720  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-034-Q1-E1-A5  
  
 <400> 1720  
  
 gcgtttggaa ttgtcatctc aaaggaaaga gcaaacgcag aatggagaaa ggaatgagag 60  
 aatcagaact tacaactatt tgcagtcaag agtgacagat catcgttcag gtttcagtgt 120  
 acaaggtgca ggatttgaag atttattgaa tggtaggagag tccctggaac aaatgatagt 180  
 tagtgtttgt gagcgagatc gacaagatct ggtagacgt gtttgaaaaa tggaggcacc 240  
 tatggatata ttatggaatg gcttttcctt aaaatagaaa atgaaatggc attgagtctt 300  
 tcgggggtata tcggcagaga ggaaacaatc aaaggcattc tgcgaatgtt ggtatttata 360  
 tttaaggagc aaagtcattt gataacattt tg 392

<210> 1721  
 <211> 94  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-034-Q1-E1-A6  
  
 <400> 1721  
  
 ccacacagaa aactgaata cgatcaagaa ccaatgcatt ttaagcaacg gacattggaa 60  
 tcaaatattc tccataatat ctcaataata tgat 94

<210> 1722  
 <211> 437  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-034-Q1-E1-B10  
  
 <400> 1722  
  
 cacacgcgtc cgccacgcg tccgcggacg cgtgggggtcc aagttggcgg atttctctat 60  
 cgtaaaacag tggttccgga gcaaaatata tatcgaagta tttgccaccg cggaacaag 120  
 agctaggcaa acaagctttt cgacgatacg aaattctttt acgagcttcc tctgtaatct 180

tactacttca gctgacaaaa ctgccatgat aaagccagaa agaccaagga agcctccaca 240  
aaccatatca gttcccaaaa ggttgaaagt acaagactcc attgaaactt cgtccactta 300  
cactcaatga tataaaggtg cttagacctc ctgaccaaac agcataaatac atgtgttcaa 360  
agtaatcata agcccgtcga tgcaggatct ccagagcgaa cagtgaacct ttaagattcg 420  
cccaaagacg aagactg 437

<210> 1723  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-B11  
<400> 1723

cttgtgtaga gcggcgaacg acgtcgattg tgcggtggct tgatcggttc cttccctaata 60  
attcgacaac gagcatggaa gaaactgctg taaggattat cttgtgttgg atatttttag 120  
cgcttacttg tatatcaaca ggggtgctagt gcagcttccg caagtgggtgc gcctaagaga 180  
agaacttttc gcaagttttc gtaccgcgga gtagagttgg atcaactatt ggacttgaac 240  
atggaacaac taaaggagtt gttcaactgt agaatccgaa gaaagttgaa tcgcggaatg 300  
ggatatcaaat acaaaacact gttgaaaaag ttgcgaaagg caaaaaaggt cggacctoca 360  
tggttggtca ttgtcgggtg agactgaagt tgttttcttc tctttgtgat aggaagcccc 420  
gga 423

<210> 1724  
<211> 434  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-B12  
<400> 1724

cggacgcgtg ggtggtgatg agaataattcg tcaattgttg acaaagaagt tggaaggaca 60  
catgctttca ttgagtttgc acatgtatgg ctgtcgagta gttcaaaaag ccttggaagt 120  
attgaaaggg aaggaacgaa ccatgttggg gcaagagttg aatggacatg tgcttcaatg 180  
tattcgtgat cagaacggga atcatgtgat tcaaaagtgt attgaattgg ttgaaccaga 240

gagcatttta tttatcgtag aatccgtcaa aggacaagca gttgctttgg cagaacacgc 300  
 ttatggatgt cgagtggtag aaagagtatt ggaacattgt ccaatggaac acaaggcaga 360  
 aatattagct gaaataatgt ctagecgtag ggatttgatt cgtgatcaat atggcaacta 420  
 tgtaattcag cata 434

<210> 1725  
 <211> 291  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-B3  
 <400> 1725

aggagaagaa gagaggggtat gcttagaagc agcaaaccag agaggaaagc gttaaagcat 60  
 gaaagaaaag aaatccgaac aagaagagaa aaaggtacga cagaggaccg aatcagggta 120  
 agaggtagag gagcacgacg agaagagaga atgctgggtg gagtanccaa gcggggagaag 180  
 ggaagtacaa ggtacgacag aggaaagggt tacgagagaa ggaagtacaa agaacacagt 240  
 gtaaggcggc gtcataatag aaatcccaaa ggagtcgaag aaacgagaga g 291

<210> 1726  
 <211> 91  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-B4  
 <400> 1726

atcatctaaa cattgtgcaa aatctaattc taaataccta agaatcaaat aaaatctgac 60  
 atgggtgattg ctgacactgc acaacacaac t 91

<210> 1727  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-B5  
 <400> 1727

cgctgccagg gatcatggat atccttttacg atttggttgtt cctggctatg ttggagctcg 60  
aagtgtgaaa tggctaactc gaattatctg taagatggag tctcccgatg gatattttat 120  
gacgaaagat tacaaatatac tgccatctaa tatggacttc aataatgtgg attggagctc 180  
tactcctcct atcatgaact tgtctgttca gtgtgcaata tgtgatccac ttccagatac 240  
aaagttgtct ccaggccctt ataaaatccg aggatatgca ctaacaggaa aatgagaaca 300  
tagtatgaga gtagaggat ctattaataa ctccaacgac tggcaactgg ccactttgat 360  
caaaggagaa caacttgac acatagaaat tcctaatagg gtcacttctg gaatgaacga 420  
ttgg 424

<210> 1728  
<211> 543  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-B6  
<400> 1728

ggaatcatgg gatcaccacg cgtcgggtgtt attccagttg gttggaagac ttgcaactat 60  
gtgggttttc aaggaatac tttgtactacg aaacgaaccc tagttgccta taaaagtccc 120  
atttcctcgt cagctgtctt aaaatgtgct gtagaaagtg tgcattcctc agaggcccat 180  
cggaaaaaac aaaatgaagc gtggaaacac cttgatgtca ggacagaaga ggaatacaaa 240  
gctgggcatg caaaggatag tatatgtgtt ccagtaatgg ttcgagggca agatgggaaa 300  
ctacaagaca atcctatgtt cttgcaggac gtttccaagt ttttcaagaa agacgataaa 360  
atagtagtgt cgtgtttttaa aggcccaaga gctatgaagg ctatagagaa actacgtgag 420  
gctgggtttt ctcaacttgt gaatgtagaa cgtggcctttg agaagtggca ggaaagtgca 480  
cttctgttag aaacctagtt gtgtgtctcc ctacaataga gacaacatgc gattattcct 540  
atg 543

<210> 1729  
<211> 560  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-B8



<400> 1729

ggattcatgg gatcaccacg cgtcgcgtgt gtttgcacgt gactattcgt ccagaataac 60  
gttggcttta ctttagcaag cactcttctt tggaaccggg ggcagttata tcatgttatg 120  
gaagtcttta ctggaatata taccttccaa ggaagttttt atttcgtttg ttcgttacia 180  
gcctcaacct aatcggggaa atcttgcaag agatttactt gcaaacgaaa ggacttttct 240  
ttcgtggctt cgtacgggaa tggcatctat ttctgtgggt ctagcttttg ggcgtctcat 300  
tggaactacg ctctcggaag tagtgggaac cttgtttgta tttctaggcc tatttattgc 360  
ggtatattgc tgtatccgat attatgtaaa tgtgtttcag atagaagacg acaagtatac 420  
agcggacaca gttggtcctt ggatattggg ttccttggtt gttgctattg cggccgtatc 480  
ctttgcactt atattcgtgt agttaattga atatttacct agtatgaaga catttaattg 540  
atataaaggg actaaaatct 560

<210> 1730

<211> 438

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-B9

<400> 1730

aagaaagctg agtcagggtg tcaatactgc gttgaaatcg ggtatgaagg acgatgaagc 60  
tgtcagatcc gtggaagaaa gaatagttag tgaagtagaa ggtgaggaag cagaagaaga 120  
ggcaggagga gaagaagaag agcaaacacc ggaaaaggaa gaacaatcac ccaaagagac 180  
tttgactttg gatgaatatt tggctaagca agcagagaaa aagttacaac ttgccaattt 240  
gttgggaaac aaacctccca aagtcagaga aaccagtaca gtagcagttg atgatttgaa 300  
gccttggaag agagaagacg acgatgatcc aactttatca gaaatagggtc aaaagaattt 360  
gcagcagcag caacaaaatg ctgtaaataa tatgaataat agaaaggata acaagaacaa 420  
gacagtagat atgaccaa 438

<210> 1731

<211> 242

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-C4

<400> 1731

ccaaacctgt gcaaaccaat ggttgacgag gaaaatactg acgaattgaa agtaatatca 60  
gctgctagtg gtttacgcaa gagtatatat ctttatctca ttgctgtttt tgcccgcacac 120  
tttcgaatcc cagtgcagta tatecgaact acaggagatc ctctccctca aaacgcttac 180  
catcactcgg ttgggtggaa ctatctcgga aactctggag cgatgctccg taaaaaatc 240  
ca 242

<210> 1732

<211> 480

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-C5

<400> 1732

accacgcgtc tggcttcgtc tactcacgag aggtattgca ccagttacta aaagcatttt 60  
gttatccaca gtaaagtata atagtccttt gcagctgagt aaagcagaga tatggagagc 120  
ttcttatcca actggaagca gacgttcctt tgcagaacaa aaggcagagc agcgggtccaa 180  
agaaggtgaa gaaccaataa cgccttagcg ggggtgtgacg gagaagctgg ataaaagaga 240  
cccaaactat ccttggaagg tatctactcc aaatatgttt acaactgttct cattttgttg 300  
cttggtactgg agaagttttc ttccagaaca tacctataaa cccaacctca atatcaatct 360  
ggacagggcat catacacctt tagatttttag agatagagta gctcggggaa tcgtcttttt 420  
tttaagattt ttgcggatgc cttttttcag aaacgatagc gacactgcgc tgttgtgcta 480

<210> 1733

<211> 593

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-034-Q1-E1-C6

<400> 1733

ggaattcaat ggatcaccac gcgtcggcgc ggaggcttgg aagctgacat gcagagacac 60  
agaatgaaga cgacatttat tatgtcttcc ggcacgttgt gtcctacttc acgcaagcat 120

cggttggtac aatgttgta gtcgagaacg tggaagatgc aacttgctcc aaagagaagt 180  
 tacgacagat acattccatc acctcctggc cttcagaagc taagagatta tcaccctcga 240  
 ccaaattacc caggcacctt agcgccctggg ataacaccgg atatttttaac ggtggaagag 300  
 ttgctcgaaa gcccaacgga aaatctagcc tgtgtagagt acgacatgga cgaacgtgct 360  
 cctctcgtac gggaacgtga cgactgcata ttggattggg tggcagaaga tggacgtttg 420  
 attgaagatg attgggatgt ggaagacaag acttcttttg tagaaagtgt ggatacgatc 480  
 ggtgatgcta cctcgtaca tgatgaanaa gtattagcag agtatttacg tgaagcggat 540  
 gcttcagaag atgaatacta tttagaagaa gtggaaacgt gatcaagttg tca 593

<210> 1734  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-C7  
 <400> 1734

cggacttttc aggcacccaa ggaacgtnta aaccaaagat cgctcttcta aagccggcct 60  
 tcagtttcca gttggacgtg taagtagatc ctataagaat ggaaactagg cagaagaatt 120  
 tggacctgga gcagcgggtg attaaccggc attttgggaa aattggacgg cggagttggt 180  
 ggaacgggca ggcaatgcac ctctgtgatac cangaaaacc cgtagagtcc cacgtcagat 240  
 tcatttggca gttcgtaccg acgaggacct taccacgtg ttgggcgggtg tgactattgc 300  
 ttcaggtggc gttcttcaca acgtccatcc caatctgcta ccaaagaaga acgcaaagga 360  
 agacatgcag tacattttgc cttgacctgg tgtctttgaa caccaccttc acaagaaact 420  
 tgtcacttta ttggaatgta ttgaacatgt gaaa 454

<210> 1735  
 <211> 575  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-C8  
 <400> 1735

accacgcgtc ggactggagc ctcttaattg agtgccaaag aagaagaaga aaaagaagag 60  
gaggatgtcg actttgtggg gaaaacccaa gtctagaaac gtacaaatag aacattgggtt 120  
acattctttg gaagaagttg aacaagtagc taggtcagtg gaacccaaat tggtttcaac 180  
tacagccaaa tggaaaggaa ttgccagag gtgcaaagaa atagctaccg acctttgtca 240  
aatattcaac aagaatgacc cccattatga ggttctattg gcattctaca caagttcgag 300  
gaagtttgaa gacgaacaac atcaagtac caaggttggg attgttgtgt acaagtattt 360  
gttgtaaacc atatatctct ctctctcttc catatatata tatatatata tatatatata 420  
tagatcaacg agcttaggga tagaccagtc gagaggttgc gccactattt accggacatt 480  
cagcaactga aagcacagtg tgtcgaagaa caaagttgc gtgcccgaact agagcactat 540  
cacgccacag taaagtcgct agacaagaga cacgc 575

<210> 1736  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-D11  
<400> 1736

cgcaaagcgg gacagtgaga tgtcggaggt ggcaggcttt gttgcgtgct gtaatatattt 60  
gttctttacg acttttagat aataaattct tggaaaaagt taaatttagt ggggaagcgt 120  
cgattgacag tttcttgagt aaacgggccg aactgagtta aaggaagtct ccgttacgtg 180  
gcgaacaaca gaaagagtag agttcttttag tatttttagag tatttttaaaa tactaaaaaa 240  
aaagtttcgc ctagaatgat aatttcgaga cgcccagggt ggtgtcgaag aacaagtttt 300  
ttagtcgcac cagtatacgt ctctgacaat agaattgtatt tgcaagactc ttttgtctct 360  
ccgttccttg aactgtttct tgccaattaa agtcgctttg ttctgaaaaa aacacgaccc 420  
gccgcgtggg 430

<210> 1737  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-034-Q1-E1-D2

<400> 1737

cgcgctcgggc aagcactgca tcaagtaagt atctcttcag aagatcaagt acgagtcttg 60  
ctctgctcaa tatgaagttc anaagatcaa gcagcaacaa tgtactatga cagtctctga 120  
acaatacata cagcccgata cttgctacaa gtatgtccct gaacaacagg tgggtgcctca 180  
tacttggttac aagtattatt ctgtacggga gtgtgattga aaagtgctat cctcagtatg 240  
caacaacgga gaaatgtgta gagtatgagt atgttccata tgccacttct acaccttattc 300  
catcggtatc tctaagttat actccttcag catatcagac aacttctgct tactaaagag 360  
ccgaacactg gatagatttt tgaagt 386

<210> 1738

<211> 546

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-D5

<400> 1738

ccacgcgtcc ggcgagcgat tccatgttga aagagggtag acgtatattg tccgatctca 60  
agtttcagggt gcttcaagat ggaaaacctc aggtgataac ttcggatcaa gtattcggag 120  
gaaagaaagt agtattgttt gggttacctg gtgcctttac tccaacctgc tcgaggcagc 180  
accttccagg ctttgacag aagggtgatg aggtcaaadc gaaaggagta gatacagtcg 240  
cttggtttagc tgtcaatgac cttttgtat tacatcagtg ggcagagtca cagggagtgg 300  
caggaaaaat tctcatgtta gcagatggtg gtgcgcaatc tgtcaagaaa cttggactgg 360  
atatcgatac tgggtgacttt ggtggtattc gttgtcgtcg attctcaagc ttgattgatt 420  
attatgtcgt gaaaaagctt catttggaag aacgcacagg atttagtggg gcctcttccg 480  
cacaacaat attgaaagat ttgtcttgaa tacatttggt tgtcatacca cttgtgtcgt 540  
tgtttg 546

<210> 1739

<211> 545

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-D7

<400> 1739

ggattcatgg atcgaccacg cgtcggggcca cgcgtccgca cacgcgtccg cctattatga 60  
acgatcacag tgatcatatg agattaatgc caccattggc tgcaacttgt attatgactt 120  
tgtgtgcaa tcattgaaag tcccgttatc gcaaccgagc cactgagaat ttaaaggaat 180  
tgcatagggg gagttcaggt ttcatatcgt tgatgacatg ggcggggaga gatactttag 240  
aagaatgtac agaagcttgt ggaggtcaag gatataaaag tgaaaataga attggcgctc 300  
tgatgagctc ttttgatgtc ttactgacct atgaaggaga taagttggtc ctgtcacgac 360  
aagtcagccg aagcgtaatg aatgattttc tcaaacagat gaagagtggg aagttcgttg 420  
gaccgttgtc atatgtgaag gatcaaagtg tcttaactgg atcacttcca gaagatattc 480  
atagtattgc ctattctcgt ctcattttac agcgcttgca accgatactg gttgctaatt 540  
tggca 545

<210> 1740

<211> 537

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-D8

<400> 1740

ggaatcatgg gatgaccacg cgtcggccga cgcgtgggtg agctattcat gcagttgttg 60  
gcatttcagt cgtctacttg gagtcattgt actcgcagct ttattcaatg tcccaagtct 120  
atcaatattc taaaaaacia ctatacctgt cgtacgttgt ataaacgtag ccaattggct 180  
cgagggatat cgttgctca agtcccgaag gcagagttgg agaggagccg aagacagtcg 240  
ttttgatgcc aatcctttgg tcattgtaat tgctttgctt ggttggactc ttctgctag 300  
cattccttcc aatattccac ttttacgtgg cactggattg actcaagcct ttttcacttc 360  
cattcaatcc aacttggtc aatggcccaa aggtcctgcc ttggatgac ctttctggct 420  
ttatattatt ctatggcatg ttggactttt tctcgtagt ttctttggta ctattggata 480  
tgggattagt cagaaacgag tatagctgca agtattcata aaatgctctc gtgtggg 537

<210> 1741

<211> 307

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-E10  
 <400> 1741  
 acgagtcgcg acacgcgtcc gcaaaaaact atacgtggga atctagcttg taaggacaat 60  
 gtcgtctact tattacgaaa tagataggga aattattcat cccaatatca atcccagagg 120  
 acatacgata atcgggtggtg atgacaggca cgttgccagg attagatccc tatggcagcc 180  
 tttaacaactc atttcttaca atactatgca gaacattgta cgttttgttc ttttggtttt 240  
 tgggtggtgt ctggatctat atctatttac aggtattgct gcgttaggtc catcgaatac 300  
 tgactcg 307

<210> 1742  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-E12  
 <400> 1742  
 gtcagcagaa gaagagcagc aactgaaacg tactatttta gaagcagaaa gaaaccatac 60  
 agcggaagaa tatttattgc attcctatct agagaaggag aagcctgatg aagcggagcg 120  
 tttcttaaga gactatattt taaatgatgg ttgggtgaag aatatatacg aagctccctt 180  
 attgaatggc gaagtacaga atatggaaat agatgaacaa gatgcagagt ttgtggaaaa 240  
 acaagaagag tttgaagccg cttataattt tcgatttgaa gaaccaatg caactgaaat 300  
 agtttcgtat ggacgaggca catcatcttc ttctcgagcc aaggaaagca aaagaaagag 360  
 aaagagagca cgacaagaga tgaggaagaa agataaaata gagaagagaa agagggaatg 420  
 ggagcctcag aagaaggaa 439

<210> 1743  
 <211> 286  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-E2  
 <400> 1743

cgcgctcggtc gtggctagga atgataaatc catggatagg aggaataatg ataggaatga 60  
gtaagaggag tggtaggaag ggaataatag cacgtggaat agtatggata ataatgacaa 120  
gggagttagt acagaggata acggaggaaa cgatagtaga acacatgatg gagactatac 180  
gatatgaaat acgagtcgat cggatgtcga taggatttat gtggttgacg agtgtgttga 240  
taagcgaacg ggtgagtcac gaggtgtgaa acagtggacg accatc 286

<210> 1744  
<211> 152  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-E3  
<400> 1744

aatgaactag gcacaaggat atcgatatctg cggtagacca tatgaacgag ccagcaccga 60  
ctgttttagca gaaacacagc actctgcaca aaagacaaca tctacactat acagtgtgcg 120  
gcctgcccaa tagtagacac gacatccatc aa 152

<210> 1745  
<211> 521  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-E6  
<400> 1745

accacgcgtc ggacaaattht tggatgacag gcgtagacaa gcaagctcaa gaagaaagaa 60  
gtagaggaaa tgagtatttt cgcaataaac agtacaagga ggcattgcgag tgttatactg 120  
ttgctcttag gtatgcttat aaagtttaag agtgctttat taacgaagag gactatagta 180  
aagaaatgag tacagaagac cgggcagcgt gttttgcgaa tagagctgca gcaaagctaa 240  
agttggagga ctatgaaggg gctttggagg attgttccga agctttgagc ttggatgaaa 300  
actattggaa agcaaagtac cgacgaaagg aatgctattht gaaactgggt cgttatgagg 360  
aagctttgaa agatgcaaag gactaagag aagcacaaca gatattcttcg gaagaattac 420  
aacatataga acagttgaag gagcgagacg atgaaagacg taaagaagaa gctattgccaa 480  
agttgaacga agtcggacat agtgttcttg gctattttgg t 521



<210> 1746  
 <211> 114  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-034-Q1-E1-E7  
  
 <400> 1746

gatggaacag gcataagcca gacgattctt tcatgaagcc cactctacag gggagtcaat 60  
 catatgcaat gtagatattg aacattcgga ctttcatacg caactcttgt gtat 114

<210> 1747  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-034-Q1-E1-E9  
  
 <400> 1747

cacacgcgtc cgcccacgcg tccgcccacg cgtccggcag cggataagca tttggtgcct 60  
 catttgctg gttggttgga tcgttggttg agtgactgga tatcttttgg tcgtttttta 120  
 taaagcagat atggttgctt ccaatgagga agacaaacca tggaataaaa ttctcaaattg 180  
 caatcctaaa aagagaaaat ataaacgctg tttggtagaa gacgagaatg tggagaacga 240  
 tgtggaagcc aacgttcgaa gggaacgaat tcgtgtacta agagaagctc agaaagtga 300  
 agaaaagacc aactggttga attggatgga caacattgga gacaagactc ctaaagaaga 360  
 agaaaagaag gaaaatttgg ctatggaagg cttgaaacat aactttgaca ttgaacaaaa 420  
 ggatgacg 428

<210> 1748  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-034-Q1-E1-F1  
  
 <400> 1748

cgcgtcgggc cgaagaaaga ggagaaagat actttagga agctttggca gctctacaca 60  
 acagaagcag atagagatgt ttctgctcta gaaaagagt tggaaaaagg acagttatcc 120

tttgatccat cgttgcgtgt tgtggtggct ttctatatgg gtttgtatTT tgatagtttt 180  
 tattcagata ctcaacgacg agataaatgg tggaaggaag cttgtgaagt aaagttggaa 240  
 aagaaacatt tctggcaatg ggttgcggaa gccaaactgg ctgccaatgt tgcttaaggt 300  
 tgaagtcgta cgtattcgtc ttgtgtgggt attccttttc tatattaagc cacgtgggtg 360  
 atggatagat tagaaaagga ataaccttat caagactcga ataaataaag attggataaa 420  
 aagttttttt 430

<210> 1749  
 <211> 302  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-F2  
 <400> 1749

gaagctttgg cagctctaca caacagaagc agatagagat gtttctgctc tagaaaaaga 60  
 gttggaaaaa ggacagtat cctttgatcc atcgttgcgt gttgtggtgg ctttctatat 120  
 gggttttag tgtgatagtt tttattcaga tactcaccga cgagataggg ggtggaagga 180  
 agcttgtgaa ctaaagtgg aaaataaaca tttctggcac tgggttgctg caccacact 240  
 ggctgccact gttgcttagg gttgaactcg tacgtactcg tcctgtgtgg tcattccttt 300  
 tc 302

<210> 1750  
 <211> 492  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-F3  
 <400> 1750

cgcgctggac agtggatgtc gattacaagt tggatgatt tgggtggtgcg ttaggggtata 60  
 gttcgatga tatcaacaag tttctatggc ctattcgaat ttctcattcg gttgatccga 120  
 cagtggatga aagtgttat cttacagccg atggtaacta tcgcgttggg gaaggagcgg 180  
 gtccagcgtt ggtggagtcg ttgatgtaga agctttgtta ttatagattt ggagaagttc 240  
 agtttgatcg cgggcacccg gctggttatg ataaggttcg aggtgaagtt atagcgaata 300

agaacttcag actgcgttat tttagaggaga cctttactag togcaattgg ttgggttcgca 360  
 tttatcatgt gaaagacttg ccacatattg gataacctgt cagatcatac catccaatga 420  
 gaatatatgt catcccagag attccgacat gttgtggaca atatctgtat caatcgcccc 480  
 accacttttt tt 492

<210> 1751  
 <211> 451  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-F4  
 <400> 1751

cgtcggcccc cgcgctctgcc acgcagtcgg acgtttgaaa ggcgtccagt atgaaaggag 60  
 aaacgagtgt agcactgtct agtcgtcgaa ctcagcgaaa cagcaataac tgtgaaaatg 120  
 cagtaaaacta gcagtatgac ggaaagaccc ataattcttg actagatagg tttagggagg 180  
 agagagaatc atgaagtaga ggaggtgggg taagagatga aagaccactg catgaggata 240  
 aggaatctaa ctgagtaagg aaaataagct taagctaatt ccaccagtga agtaaagcct 300  
 aagaaagagt aaattatgca agcaaaggca tgagagaagt ataatagcag aagcatgctt 360  
 gaagaacaag aaagagattt cagaaaggga agaaaagtca gctatagaga atatgtgaag 420  
 gagaactcac accgaggaga gcaccgaacg a 451

<210> 1752  
 <211> 564  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-F6  
 <400> 1752

cggaatcatg gaatcaccac gcgtcgggta aacaacatca tattccatgt attgccgatg 60  
 gaggtgtatc ctctataggt catattatca aaggactttg ttgtggtgct tccactgtaa 120  
 tggtgggaag tatgttggca ggaacggaag aagctcctgg tgaatatttc tataaagatg 180  
 gcattcgttt gaaacgatat cgtggaatgg gatcagcgga agctatgaag aaagggctctg 240  
 cacttcgtta tttctcgga gatgatcggg tgaaagtagc tcaaggagtg agtgggtgcag 300

taatagataa aggaagtatc aaaagatatg ttccttactt gttgagcggg gttcgtcatg 360  
 gctttcaaga tatgggcgta gtcagtgtag accaactgca tgactatatc gaccaacgca 420  
 agttgcgtat gcagcttcgt acaccggcag cacaggtgga aggaaatgtg cattctttgt 480  
 ttacgtatga gaagtccaat gtttgattcg tctctgtgac tagtatgaat atacgcacag 540  
 actaaagata attctatddd tggc 564

<210> 1753  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-F7  
 <400> 1753

gaatcatgga atcaccacgc gccgggcaag taaaagcggg gaacagagag gacgaaagcc 60  
 agattggaac cgagaagacg tccatacaag agaagtcagc agtggggaaa atcgggcaat 120  
 gtccccgggaa gtatgacca gtaatgagga gtggactaaa cagaacagga agtacaacga 180  
 cggactgaac ggaacttacg gcaaaaacac gtgccaccag cagcggtaaa acgtgtgcag 240  
 cacgcgtaga gcagacgaac tgggtgtacc ggtcgagtag tacagtaagt gtccaacgga 300  
 tcggacacga gagaaccagg acagggatga aatgcacaga 340

<210> 1754  
 <211> 453  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-F8  
 <400> 1754

tctaaagata tacgtggaca actaagcttt aactttcaga gggtcacaga aaatcctgaa 60  
 cattggttga tcaagtttac aagaagcttt cttcgtattc ttcgaaatta gaactttcca 120  
 natccttatt gctagtcata ttgtcttcaa ccatgatacg cgagtaacta agttcctgct 180  
 tccttcgctc ctgttcttgt ctttctaact tttctgcctt gagctgttct ttgaaagcct 240  
 tttcaagcat cagatgtcgc aacaagtctt tctctagttt tacttacctg ttttctttta 300

agtatctgct ctctttcatg atcttctttt tctgtgccca agtttggaaa cgcttccttc 360  
 ttcgacttct cgagtcgggt aattatatca ttcgtcctct tttctacagt tatactctta 420  
 acacgctttc tatcgtgaca cacaacttgt cct 453

<210> 1755  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-G1  
 <400> 1755

cgcgctcgcc cacgcgtccg ctgaagcaca gtttggcact tggatcacta tagtaatggt 60  
 actttgctat tctttggaaa ctccaatcgg tatactctatt ggtattggta ttgcacacac 120  
 ttatcaggaa aactcctcgg catctttgtt aacgagaggc attttggatg ccatctcggg 180  
 tggaatttta atatacacag gattggtgga gttgttgact tattggttta cgcgcaactc 240  
 gaacttttta agacgcanag ccatatctat ttttagtatt gtgggatttg tctgggttagg 300  
 agccatctgc atggcgatta tcggagcgtg ggcctaagaa taaaatttgt ttgagacgtc 360  
 gtggtgcaga tgactcgcat gtttgggtact tgggtcaagt ctgacaagag aaaacatttg 420  
 ttgctacttc 430

<210> 1756  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-G2  
 <400> 1756

gcgctcgccct gttcgtctacn acatttatca ataacttatat gtttattgca tcgactgcac 60  
 acaatattca acttttatatt atctttttta ccttggaaat gcaactagtt ctcgtcgata 120  
 tgcatcttct tggagctatc agttcagttc ctggtggaat actaggaatg ctgtgttcca 180  
 taagtgcctg ggttctatct gccactattg tcatcaacga cagttttgga actacgggta 240  
 ttccgaatcc ggaactgaag gaccttccta tttccgtga ttgggttaaag atgatcaaag 300

gagagaagaa gtagttgagt tgttgcttgt ctagagtttg tttgtcttgc ttagttgctg 360  
 tggagtgtgt ttagtcaact gtcgatattc gacattattt cgtactttta taaata 416

<210> 1757  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-G3  
 <400> 1757

ccggtacgac aacgcgtcgg cactgactctt tgtggttcgc aacgggaagt tggaagaact 60  
 tcgcgctcaa gttcctatga atatacaagg taagccaaga aggcttgttt gtgcgcaaca 120  
 cacagttgan actactagtg gcactattga cccggacgac ttgagacgac accaacaact 180  
 cttacgaaga atgcgtttcg gaaaaagtta aaagtttatt ccagccgttc canacgatcg 240  
 atcatttggt ccagcgtttt caattcatgt tcaagagctt gcaagagttc gcgttgattt 300  
 cgcaaatact ctttcatata ctttagggag cacttggacc catgaacgat tgaaaccaac 360  
 aattcttctc tgaccgatgc caaagtacag 390

<210> 1758  
 <211> 197  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-G4  
 <400> 1758

aaagaacgta tcaaggaaaa ctttgatgtc ttattcgaat tgagtccaca cgatatgaag 60  
 gaattggaag ccttagataa gaacataatc ctcaatcatc aaaaggaata ttgggggtttc 120  
 aatattcacg cttgagagag tctttgtcgt acaataaaca aatttcttgt tgttgctgct 180  
 gctgtgaaaa aacatca 197

<210> 1759  
 <211> 200  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-G5

<400> 1759

accacgcgtc cgtccttgca attggtagaa caatagtaag agagagagaa ttggctctcg 60  
ttcttgtgac atatatatat atctatatat acacatatat attaggcttt agatatttac 120  
atctacagta tccaatggta tttcggagggt ttgtatacat tggaagagtc gtcgtgggtca 180  
accatgccga ccacccaggc 200

<210> 1760

<211> 480

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-034-Q1-E1-G6

<400> 1760

accacgcgtc ggcccacgcg tccgggcata acattgaaat gttatggaac gtctgggtgtc 60  
ggcgttgcta agattaagga ggaagttaac aagtttctag ttccagtttc ttcacagttg 120  
gaattggaga agaacgatat ttgggctatt cagttgggtcg tgagtacaag ttacaataat 180  
gaagtatcca atcattttgt agataagcag aactgggtaa tcgataccag aaaaaagggt 240  
tcttcttcgt catctactcc ttgcgatgat atgaattact ccaactccga tcaagagggt 300  
ctccgtatcg gccggaactg ccaacttgta ntttgctcga tagaaaactt ggaaaagtcc 360  
ttgggttaaag aaatttatga ccanatccag aaagctcgct gctcggagag ggaanacttt 420  
ttgaccaatg tgactcctct atccagtctg ataggaacgt tgttcgaaca tggatgggca 480

<210> 1761

<211> 512

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-G8

<400> 1761

ttgtgtcat ggtatccgaa gaggaagaac ttccaattat agtggaaaaa cacaatagag 60  
gaaaatatgg catcgcatth gatccgcttg acggctcatc caatatcgac tccaacgtga 120  
ccatcggaag tatttttgggt atcttccgat tgccagacgg tgagagcata cagacaaccg 180

atgaagcttg cagacaaatt atgcaacctg gaagaaatat ggtggctgca gggatatgcaa 240  
 tgtatggaag tgcaaccaat cttgtgttgt cattcggtaa cggcgtccat ggattcacgt 300  
 tggatccttc tcttgagag tttgtgttga cacatcctaa tataaggatt ccacgcatag 360  
 gtaaaatata ttctgtgaac gacggacatt gcaaaaattg ggataaacca gtggtacaat 420  
 atattcagtc cttgaagtct cctcctgaag ggaaatctcc ttagtccttg agatatactg 480  
 gctcgatggg tgcagacgtc catcgtactt tg 512

<210> 1762  
 <211> 481  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-034-Q1-E1-H1

<400> 1762  
 gcgtcggcac taatgcaaga gcaaccaaag aagannanan aacaagataa aagccaaatc 60  
 ggccttgctc caatattttc ttcaaaatag agttgaacta ccagtcgaca caaagcttgg 120  
 acgactccaa gatggcttgg taaccttgtt ctgcacggtg gctcgcctcg acagaaaaag 180  
 aaaggaccag ctggctacta taagcaccaa tcgctagtgt ctacattgca agtgccacaa 240  
 atgtttgctc tttatcgact cacacagggc ctagtctttc tctttctgtg tcgacgagtg 300  
 cgtaaacatg acgtcttggg aacgcaacc ctagtgga caggaagttt cctgtgcagt 360  
 gtcggactat gtgaaaagca cagcaaagtg ggaaagagtt tcgactcctt gntgtttctc 420  
 cactagcaat attgaaccaa agtggttttcg cacattttgc actgaaacga atggctgact 480  
 c 481

<210> 1763  
 <211> 245  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-H12

<400> 1763  
 actcagcatg tagacaactc ctaacttctt gatgaagtgt cttaaactgc cgtagtatca 60  
 taaacatcac aagcctttcc atcgagtagc attttcattg attcgcccag aagactcacc 120



ttctactcga ggatataagt ttcaagtatt acttttcgcat attcttttatg ttogatggaa 180  
 tttttgtaag caactgggag aattgagtat atttcgccag aatttgggta acgagattcc 240  
 aaatt 245

<210> 1764  
 <211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-H2  
 <400> 1764

tagcatacat gacattacag tgtctaattgt ttcagatgct gcctttggag aatggagagc 60  
 attatcggt tcaagtagag cgaaagaact ggaacacaga agaaacgtca acaaagcgac 120  
 aatagatagt ctcaagaaga ctcttaccga aaagtcaagg cttacatttt ctggacaact 180  
 tgaagaagtc tatcgaagga atttaaagat attcaacgag ccgggtgaca ctgttggggc 240  
 acttcacttt atgaaaaatt aatatcaaaa cagtaatagt gtgattgtgt gggagcttta 300  
 ttgtccgctt gttgtctaac ccaaatagtt gttgttggtg taaaa 345

<210> 1765  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-H4  
 <400> 1765

acgtacgggt gaatcaactc aagctgaaga actttcaggc aaccogaatg gtcacagga 60  
 gatataaaaa acctgggtttt actcgatcag tattcttcct atgaaagtac gattgctaca 120  
 gcttcgggct ataaacttaa gatgttggtg attatctttg aaatgggtgt agcttttcac 180  
 tccgtaatta ttggtctgaa tcttggaata agcacaggat cgacattccg tacgttggtt 240  
 gctgctctcg tatttcatca attctttgaa ggatttgctg tcggtactac tgtttctgaa 300  
 gccagtttg gcaattggat cactatagta atggtacttt gctattcttt ggaaactcca 360  
 atcggatatat ctattgggtat tggatttgca cacacttatc aagaaaactc ct 412

<210> 1766  
<211> 469  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-H5

<400> 1766

ggaattacgg gatcaccacg cgtccgacct ggagtacatg aatcctacgt tatgtgcgag 60  
tgatgaaata agcctaata tcatctggct ggaaccttaa ctgaaagtgc aactcgtgag 120  
gaagaagaga caatcgaacg aattgccaga tagcgtcctg ttatggacgt ggaaacgttc 180  
atagcttgct gtactgcgga tcatgctttg aatttttttt cttatacaag atacgatgct 240  
tttggctctt tatgtcacgg acgaaatctt ggtttcgact actgcatcgt ttattctgtg 300  
tgttttgtat gtgtgtctag gtgtgttcga taaaaatcac ctatactctg gtgacaattg 360  
ccggtgtgac gataccttca gttgactaaa gtttctatgg accatcagat tcacgaggta 420  
atatgagtaa gacacgaatg aagtagggcg gactttctaa acaatgcat 469

<210> 1767  
<211> 481  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-H6

<400> 1767

accacgcgtc cgcccacgcg tccgggcttc atctggagga ggaggaggag atcgtcttca 60  
agtagttcct tcaagaatga cattgacgca aataaaagggt cgtctatcag gagcaaataa 120  
agggcatagt atgttgaaga agaagagcga tgcgttaact gttcgtttgc gttccatctt 180  
gaagcaagta ctggagagga agaatcagtc gggagattta tgcgtgagg cgcttatttc 240  
cttagcagtt gccaaagtata tagtgggaga agagttcaaa gtgcatatct tggaaaatgt 300  
agataagagt tcgttgaaag tgctgtttca ctcggaagac attgccggtg tgacgatacc 360  
tttatttgac aaagtcttca tggaccaaga tagtaccgaa gaatatgaaa aagacacgaa 420  
tgatggaaga ggagtttcaa tcaaggcttg tccaatcatc agtttcactc gtttgtgtcc 480  
t 481

<210> 1768  
 <211> 168  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-H7  
 <400> 1768  
 accacgcgtc ggcctcaacg tccacactag aaagaccaac gagccttgta gtatttataaa 60  
 gtgaacaacg tgattccttc acagttgtct ttgcaaaact agaatcctgt gtaccgtgga 120  
 atattgccat attctgtttt tcttatataa acacttttat tttcttgt 168

<210> 1769  
 <211> 217  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-H8  
 <400> 1769  
 ccacgcgtcc ggctaagaag gtcacattat ggaattggga gcatcgaatg gttatacaag 60  
 acttttttagg gcatgaaaaa ggagtaactt ccttggatgt gagcgtcatt taaattactt 120  
 tgtagtttat attccgagac tagtttggtt tgtattttct tcctttcggc tcctatgagt 180  
 gagtattacc gcattaaacg aaaatgtttt ctttctc 217

<210> 1770  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-H9  
 <400> 1770  
 gaaagaaaag tccggtaaga gaggcgtgt gactgtatgg catggctctc gaaaggattt 60  
 ggcttgtctc aacacagttt gcacgcatat taaaaatatg atcaccgggg taaccaaggg 120  
 ctatcgatac aaaatgcgct tggatatatgc acactttcct atcaacgtta ctgtgtctga 180  
 caatggcgat tatctggaaa ttgcgaactt tctgggtgaa aagagaactc gtcgagtata 240  
 tatgttatct ggagttgtgt gcagtcgctc ggaaagtgtg aaggatgaaa ttattctcat 300  
 agggaacgac attgagcaag tggctcagtc agctgcgaat attcatcagt cttgcctagt 360

gaaagaaaaa gatataagaa agtttctcga tggaatttat gtttctgaaa aaggccctat 420  
tcttgaatat gattaa 436

<210> 1771  
<211> 366  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-035-Q1-E1-A1  
  
<400> 1771

accacgcgt ccgcgcagcg attccatggt gaaagagggt acacgtatat tgtccgatct 60  
caagtttcag gtgcttcaag atggaaaacc tcagggtgata acttcggatc aagtattcgg 120  
aggaaagaaa gtagtattgt ttgggttacc tggtgccttt actccaacct gctctaggca 180  
gcaccttcca ggctttggac agaagggtga tgaaatcaaa tcgaaaggag tagatacagt 240  
cgcttgttta gctgtcaatg acccttttgt attacatcag tgggcagagt cacagggagt 300  
ggcaggaaaa attctcatgt tagcagatgg tggtgcgcaa tctgtcaaga aacttggact 360  
ggatat 366

<210> 1772  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-035-Q1-E1-A12  
  
<400> 1772

atcatctaatt tttttttttg gggaaagcgg tttggctcag agggctcttc ctatttaggg 60  
atatatgggt gtcggtgtat acaaccataa atttcgcaa tacaatggac gaacctttct 120  
ttaagttttt gtacaatggt ttccactaaa ttattggccc tgcttgaaag ttgctagggtg 180  
ttccagacca aaatcttcaa ttccagggtg tccccattt ttgcaaaaac tgacctcgtc 240  
tgctgtgtag acacgtgttg gtgaaatatt aacatacaac cgttctgggt tctaaagggg 300  
aaaacagttt tagacgatac aatatacaca gacacactca t 341

<210> 1773  
<211> 313

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-A3  
 <400> 1773  
 acccagcat cgacaattgc attctacttt ttattaatga agtaaatttc aatagaatct 60  
 ggcataaaac aacttatttg gaaaaaatca atattgtcca catgtcacaa caatgggatc 120  
 cgtacgtaat gggcgttttc attcgattgt ctaccactca ctctctcttt ctccaatctg 180  
 gcacttcggt tggattcaac gtgaatagcc caccttatca cagtatcaga ggaatagatg 240  
 gctatcattg gtatagcctt gcagccagta cccttggtat atagtgggtca ttccatgcct 300  
 tgtttacatt caa 313

<210> 1774  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-A4  
 <400> 1774  
 ccggtcgacc acccgctgaa gcagtgaaga aattgattgg cttcctccgt tcgtttgcaa 60  
 agggtaaaac ctttttaaaa attcagttgg aacaaaataa cggaaaaaat ggaatcctaa 120  
 aacatcatta aaaaaagggt aaaaaaagga aaccctttga atccttcccc ttaataaat 180  
 cactttggcc cactgcact ggcattattc gactcgctca gcagttacct gtggttgatg 240  
 tagaagcggg caatttggtta gaagaaaaac agtgtcaatc ttctgccgat tattctgttc 300  
 cagttttcag aagtcgggat catgtccgag tctccctaag accgtttcaa attgtctctc 360  
 ttcaatttca gcttggttga agttatcaaa atttggtgtt tcagtaaatt gtccttcatt 420  
 tcgg 424

<210> 1775  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-B1  
 <400> 1775

acgcgtccga tttattggct cgagcatttg aatatattgc tagtgaaact caaggagttg 60  
ctacagactt ggttttaaaa gttatctcca ttcttggatc ttctgtaggc tactctggaa 120  
ttgttggaag tcaagtcgtt gatattcaat cagaaagaaa ggaggatata agtgtcgaag 180  
atctcatttg gattcataaa cataagactg gggcattatt gaaatgttgt gtagtaactg 240  
gtgccttggt ggggtggagca aataaagaag atgtttcacg tattggagaa tatgcagaaa 300  
gaattggttt ggcctttcaa gtagcagacg atatcttaga cgttacttca tcgtttgaag 360  
aattgggcaa g 371

<210> 1776  
<211> 286  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-035-Q1-E1-B11  
<400> 1776

gtccggaaaa ggcaccgctt ggtagcagtt gtacattcaa catcatcaaa tgccaaaggg 60  
aggaaagaaa gattcttcaa agaaagaagc cacaagtaaa cctgcagcag cagatgctac 120  
aaagacgaca gaaaagtctg gtccggaagc caagttgaag ggaactgggtg caaagaaaca 180  
ataaaaagtt gactatgcat gtgcagtcct gttatgtttt gtgagttctg tttgatagtt 240  
tccagctatt cttttggtag tgaataaaga gaaaattttt tatatt 286

<210> 1777  
<211> 225  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-035-Q1-E1-B2  
<400> 1777

ccattttgtca agagccactc ggagccttgc ggaggacgtt ggttttagcag ttagcaccac 60  
tcttgggtat tctgtacgct actctggaat tgttgcaggt catgtcgatg atattcagtc 120  
agcaatgttg ggtgatttca atgtctgcga ctgcatttgg tttgatttgt ataagactgg 180  
ggcattattg aaatgttgtg tcttatctga tgccgtgttc ggtgg 225

<210> 1778  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-B3

<400> 1778

acgcgtccac ccaagcgtcc gagcgcacgg aaatattttc tagtcatgca aatatttgtg 60  
 aaaacgttga caggaaagac cataacctta gaggtcgaac cttcggatac tatacaaaat 120  
 gtgaaatcaa acattcaaga taaagaagggt ataccccctg atcaacaaag gcttatatatt 180  
 gctgggaaac aactcgaaga cggaagaact ctgtcggact ataattattca aaaggaatcc 240  
 acgttgcact tggatttgag gttaagggga ggtattatag aaccaacttt ggcagcattg 300  
 gcgagaaagt acaactgtga cagaatgata tgtcgcaagt gttatgccat attgccagca 360  
 agagctcaca actgt 375

<210> 1779  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-B5

<400> 1779

gaccacgca tccacggacg cgtgggcgga cgcgtgggtg ttgcgtcatg caagcacgac 60  
 atggctctgc accggtagat gtcggagttg agtggttgag agcatgagga gcttggagtt 120  
 gttatacttt gttgatcttt acagtaagaa gtggaatatg aactagtcta gacctggaac 180  
 cctatcagtc tgggtctact attaacattc tacacgcgac agtcaccgtt ggtgtgtttc 240  
 actggataaa acggagtcct ttctctacca actgggtaga agactactac gtcgataagt 300  
 aaacgtggtg ggagcaaadc cataggaaga ggcacaagac tccgaataga aagttcttca 360  
 ccgctgtagt ggtcgactg tacttaactg ccgttcaat 399

<210> 1780  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-035-Q1-E1-B8

<400> 1780

acccacgcgt ccgcccacgc gtccgcccac gcgtccgccc acgcgtccgg tgcaaaatcc 60  
gattctgcag cttttggaaa aggatgaact cgctcaactt tgtctcgtct tcttttctta 120  
actgtcatag tatccagata aagacttcac gtagacaagt attgaggcca tacagacatg 180  
ttgtgagtag ctccaagtct ctgaaacttt cgtgccaaat agaggataaa gacacgtgga 240  
gtcgtcgcaa gtttcttctc acttcacttg gatttgtgtc ttctgcgctg ttcctttatt 300  
ctcaagattc ttgggcttcc agagactatg cagggtgttg ttatttgggc gngngtgata 360  
aggttgacat aaacaacgct aatatc 386

<210> 1781

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-035-Q1-E1-B9

<400> 1781

gtccggtcaa gtgatgctgg aggaggaaag gtgaggcggg aggttggtta gagattactc 60  
attgtgcttg gcctgaagga ggatgagcac tatctcggtt tctctcaaga aaccggata 120  
tgattccttt ctagggtttg ttccataca aggtattggt ttgtcaccaa ggaaactatt 180  
caatacgtgt tgtgctcgac cgangagagc ttggacctct ccaaccacca taaagtgtat 240  
ccaagacaac ctccatgagt gggttcgttg taaagtattt cgttgtggag aaaaacatat 300  
atttctaggc cctaacaaca gcttaactgg ttccaatgca ctgcctatcg aaatagaaag 360  
ccaactggat gccgacttgt tgcgttctgc actcggattc tategcaagc aaag 414

<210> 1782

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-C1

<400> 1782

cacgcgtccg accaagcgtc cgcccacgcg tccgcccacg cgtccggagg agagaatcgt 60



catgcttcgg atctcaacga ggatacttgt cactacagaa cggatagtag agtacccgaa 120  
aatgtcatag ttcgaaaaga taaaaacgtg tcttttttgg atttgtgtct ttttgccttt 180  
gatcttttga ttagtcgtct tagacacttt tcggagcctt cttgtccagc ttccatacca 240  
gacacggatg actatgcact ttttgtgacg tggaataaga aaggtacaga aggtgagcgt 300  
gcacagttgc gaggttgtat aggaacgctt tcacctttga accttcgaaa agggatacat 360  
acttatactc tagcaagtgc tttcagagat 390

<210> 1783  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-C2

<400> 1783  
cacgctcca gcgaaacaag agaagggaag taaaaggtaa gaaagaggaa aggtttacga 60  
gagaaggaag tagaagaag agagtgtgaag gcggcgctcat aatagaaatc cgaaaggagt 120  
agaagaaaag agagagaaga aagaaaagaa gagaaaagcc gtactgaaga ccgacacagg 180  
tactcgagga gaaaggagac ccaaattaag gtgagagaat ggacgataag gaactaggca 240  
aaaggatatg gtatctgcgg tagaacatat gaaagaagca gcaccgactg tttagcaaaa 300  
acacagcact ctgcagaaaa gagaaaatgt aaagtataga gtgtgcggcc tgccaaatag 360  
tagagaagaa atcgatgaaa gtgaaagcga gtaaaag 397

<210> 1784  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-035-Q1-E1-C3

<400> 1784  
cggtcgacca gcgtcgatgt aggtggtgga aggcgtaact ttgtgggttt ccnacaagat 60  
gtcttttaaaa ttcgtgaatc aaaggctttc aacccccgta tggacaaccc gtggatttac 120  
ccaccggaat aatgtatacc ttgaacaaaa tgtcgtaaat tgtcaatttt gctttttctg 180

ttgtagtcat tgcaatgttc tcccaattta cttttatca ataccgtgac ttttaattgtg 240  
 ctttcaatgg gcattgggat tacgccacgc ataccaaatt gtctgggcct gtgggttatt 300  
 gccgttactt cattgctttg gggagcattt ccatcgtact tttagctatt gttgccgtag 360  
 ctacttttgg aacgctgtat tttg 384

<210> 1785  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-C7  
 <400> 1785

gacccacgca tccacccacg cgtccgcca cgcgtctgcg gacgcgtggg tggttgggta 60  
 ggaggaggct tggatcatata tgtgataatg attatgggtt tatgtagtga tatcaggatt 120  
 atggaacgat tctatgataa gatgagttag tgtagttagt agagtttcag atcatgtatt 180  
 tagaggaaat tgataaagat gtgtaatatg tgaatgggtt tttgggttaac attcaaagt 240  
 agtattcatt aggtcttatt ggaaagtatt tgtaagtggg aggacagatg cgtcatctag 300  
 gattgaatat ttacacataa tttgagtgtt tagatttaaa taaggaaaag atatagatct 360  
 gaattgaaat gtgatttgat aagatatata ttttg 395

<210> 1786  
 <211> 218  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-C9  
 <400> 1786

tccgctacta tcaacgtgtt tttctgggct tgggtggttg ttggtgctat cgttgctact 60  
 gcggcaagac cttctacggg aatgctgaac ttgcacaaca acaggacgga agtacacgca 120  
 gtggaggcct tgctttgggc caacatgtgc ttgtactcct tcaatatcat cttggccttt 180  
 ttgatatacc gggttgggta aagcgggtctc tggccccc 218

<210> 1787  
 <211> 395  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-D1

<400> 1787

accacacatc cgattacgcc tgctcttgc agaaactact cttcatcgac taagaaagtc 60  
aaacccgctc caggaacgta tgcaagtcac acacgaagct atcattgtcc tatgctgagt 120  
ttttgcacat tccaggtaag catctcgctg atacacatca catgtgggtc aacatgtcat 180  
aaagaagttc aaagatgctg aactgtggg ccaccaggaa tacttctaga gttcatcca 240  
tagcgatatt agtaaagtat acagtaaagg aagaggtaga agaagcaaag ggggactcag 300  
agcgagaatg tgattaatct agtgggaaat cgaccaggaa ccaacataag gtatcagagt 360  
aagtatcgaa ggaaaaagag aatgagaaaag gggta 395

<210> 1788

<211> 397

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-D10

<400> 1788

gtcatgtcgt cttcaaata ga gccatcgag acgttattgc caaagacgtt tcctaaagaa 60  
atccctactt cgtaatggcc cgtggaagca cttttgggca atccagtact cgcgctcgac 120  
gtgtatttat atcttgccgt actccacttg aactttaatg cttcaagcgt ttcgttgatc 180  
atcgggtacta cagtcggcctt ggtgcttcta gttacgtcgt atcataaaac tgcataatgcc 240  
aagtggctta agctcgatcg cacaacagag caaccaacca agagctcttt caagggtaat 300  
ttgtcggcat accgaagtgg agttgagagt cacctatggc tccctggaaag atctcgggtca 360  
gttacagtgt aatgataaac aacgcaatat ttcaagc 397

<210> 1789

<211> 312

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-D12

<400> 1789

gaagagacga gtcacgga acttggtgag tttgttgctc gtgcaagttc agaatccgac 60  
aagttgttgg tgaacgatag cgatcgagta tttcagtatt tgtattcgac gttgttcggg 120  
acggagacca aagacgatcc tacaagccga cgagtggata ttatcgtcga caatgcaggt 180  
ttggaactgt tttgtgatat gtgtttggcg cattatctca tcgcctctgg gatagcggac 240  
caagtagttt tccatttgaa agcatatccg gtgtttgttt ccgatgccat ggaaaaagat 300  
ttgtggtata tg 312

<210> 1790  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-D3

<400> 1790

aaaaaagagg aagagaagaa agagaaggag gaacaaaaga agtctttcga acagttgtgc 60  
actgttatta aggaaattct tggagacaaa gtggagaagg tggtagtttc cgaaagactt 120  
gcggaatctc catgtatcct tgttactggg gagtttggtt ggtcggccaa catggaacgt 180  
atcatgaagg cacaagcttt gcgtgattcg tccttggcaa tgtacatgtc atcgagaaag 240  
ataatggaaa ttaatcccaa caatgccatc atgcaagaat tgcgtcgccg tgtggaagca 300  
gacaagtcag acaagaccgt gaaagacttg gtcaatttat tatttgacac tgcattgttg 360  
acttccggat tctctcttga cgatccaacg tttttgcctc 400

<210> 1791  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-D4

<400> 1791

cgcgtccaat aaaggaggaa gagaagaaag agaacgagga acaaaagaag tctttcgaac 60  
agttgtgcac tgttattaag gaaattcttg gagacacagt ggctaattgtg gtagtttccg 120  
aaagacttgc ggaatctcca tgtatccttg ttactggtga gtttggttgg tcggccaaca 180  
tggaacgtat catgaatgca caagctttgc gtgattcgtc cttggcaatg tacatgtcat 240

ccagaaagat aatggagatt aatcccaaca atgccatcat gcaagaattg cctcgccgtg 300  
 tggaagcaga cttgttttat tagaccgtga aagacctggt caatttacta cttgacactg 360  
 cattgtttac tttcggattc actcttg 387

<210> 1792  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-D5  
 <400> 1792

acccacgcgt ccgcccacgc gtccggttgg taagcgtgca catgttcgcg taaagttgag 60  
 tgaaagtcgg tatagattcg aggacctcaa ggggagacta tagtgcaaca gaagaacata 120  
 gataagcagt catttagctt cacaacacca cagcacgttc ttgctggaga ttcgagtttg 180  
 gcttccaacg atattcactg gcctcctgca agttatcaact tttgtttcga agctagtctt 240  
 cttcgtcttc ctcaagggtc acctgtacca agaagaaagg taatactgaa tgtacaaact 300  
 gattttgttg cgtcggatta tacggatatt gcaaaagtgc aacacttgaa tagtttggaa 360  
 gctgccttgc gtcggatgga agaacaattt ggtcagatag ttgtaaaact ggaaaatggt 420  
 aaaaac 426

<210> 1793  
 <211> 265  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-D6  
 <400> 1793

gaccacgcga tccagttcta cagttgatac ctgtactagt aggaagtgcc gtttgagctc 60  
 aacttgttct gagtgcggtt caagttgata acgttgagaa cactcgagca tctgaaagtc 120  
 tcgcgataag ccaataagtt tctcacgcaa ctttctaaaa ctgtgtcatg atctgattga 180  
 ataaccgaag aaggcttcta agtatcatca ctgcactcta gcgggaaccc acggatgact 240  
 caaggcagga ccacttcgac cttca 265

<210> 1794

<211> 390  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-E1

<400> 1794

atggcgattg ggaacgagaa aggcgtcgac gacgaaagaa gatcgctgta ggaacaacga 60  
cataaaatgt ctgttttatt acaaagttcg gatttccaac acattcttcg tattctgaat 120  
accaacattg atggcaagag gaaagttatg tatgcgtaa cggccataaa ggtgtgggt 180  
agacgtttct; ccaatttagt cttaaaaaag gcggagggtg acctgagtaa gcgtgctgga 240  
gatttgacgt cggaagagat tgaccgcata gtcaccatca tgcagaaccc ccgacagttt 300  
aaaataccag attggttcct caacagacaa aaggatgtga gagacggaaa atactcgag 360  
cttattgcga acaatctcga ttttaaactg 390

<210> 1795  
<211> 346  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-E10

<400> 1795

gtccgcccgc gacggaagaa ctagaccgtt atatgctgga gacagagaaa aaatggagcg 60  
tgaagagaag caaatggaag tgcacgtgtt gcaagttcaa ctcaaaaga gactgtcaga 120  
gaaactgctt ctagtcgtgt cgagcttccg aaagaggaag aaatcaacga tgaggagcga 180  
gaattgcgag agttggaaca aagtatggct gtatagtttt ggaaagcagt gttagccact 240  
taagagcctg aattttaaaa tatattacat atatatccac agtaaaagtt gcgtgtggta 300  
ataaattgtc tgtagtcttt cgtcaaaaaa aagagacaaa aacaag 346

<210> 1796  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-E12

<400> 1796

gtccgcccac gcaaccgccc acgcgtccgg taagatcggt ttatggtggc tgaggacttg 60  
acctttcagt tctttgcatt tttttcttgg actcagagaa cacttttcaa acacacctgt 120  
aaatgttcac aacataaatt cacgagtctt ccatgcagag tatcgtcagc gaaattacct 180  
gcgatacgga cttttcctgt tgttaccatg ggattgaacg actcgtaacg agaacgacta 240  
agtatattcg atcttaccgt agaagaagtc gctgaagact acggcctacc tttggaatac 300  
gtcatcgatg tacttatcag taatggtgtg gaagaacctg tataccctaa cgacgttctg 360  
tcaagccgag taaaggacag tagaaaggcg gaagtcttag aaaccctttc 410

<210> 1797  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-E2

<400> 1797

ccggtcgacc acgcgtccgc gcaggtggaa ggatgcttga gcggcagaag aatggtgtgt 60  
ttgcatcctt gtaacaacac tacttgtcac ttggttcaaa atatgtttcc ggaaaccacc 120  
cacgacaatg tttctagtta tcccgaata ttagacagc tagagaagag caaagtgtgt 180  
gcgcaagtgg tgtgtccaaa accccacaga gtttccaacg cgttgagtgc gttggaactt 240  
caaaatttta agcttggaga gccttgtttt cagacagcag aggcagaaaa ctacaacaga 300  
gactcgacta ggcttttttag ctgtccctgg tccaacacgg aggagcctgt agcaatagta 360  
ggggccttgg acgtggaaag tcatcgagac ataactcctc cagaaaggac aga 413

<210> 1798  
<211> 359  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-E3

<400> 1798

attagtcgtg atttcgtcta tggcgtttac gagtttcttt ccttgccaag cgcttttcaa 60  
tacttgcagt aaattctcca actgttctcg tagaaaaaag actctagggt gggttgaacc 120  
ttttctgtgg agatggaaca aacaacttgt cataaataag cagagaagag ctttgggggtc 180

gaacaacgtg agcattctat ttagtcttgc ggtgttgga gatagtcctg ggtcgtcttc 240  
 tgtttctacc agcaacgact ttcataacgg caaagaaaac aaactgagtc tagaacagct 300  
 tcaactgaat aaggaatatg aagctgtagt aacaaaagta acagaatatg gcgcctttg 359

<210> 1799  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-E4  
 <400> 1799

acgcgtccaa gtagtcgtga tttcgtctat ggcgtttacg agtttctttc cttgccacgc 60  
 gctttccaat acttgcagta aattctccaa ctgttctcgt agaaaaaaga ctctagggtg 120  
 gggtgaacct tttctgtgga gatggaacaa acaacttgtc ataaataagc agagaagagc 180  
 tttggggtcg aacaacgtga gcattctatt tagtcttgcg gtgttggaag atagtcctgg 240  
 gtcgtcttct gtttctacca gcaacgactt tcataacggc aaagaaaaca aactgagtct 300  
 agaacagctt caactgaata aggaatatga agctgtagta acaaaagtaa cagaatatgg 360  
 cgcctttgta gacatagggtg cagtaaagta acgcttaatg catgttt 407

<210> 1800  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-E5  
 <400> 1800

gacccacgcg atccacggac gcgtgggaga tggcgacta tcaacattac cgagctagta 60  
 cagcgggtat agctttggga gaagcacttt ctgaactcaa ggaacagaac ctctttacgg 120  
 aagcggaaga agatgtgatt tggaggaagt ttgaccgtgc catgacagaa gcccttgctg 180  
 ccaacgttgt ggatacacac cttacgttga aagggagtct tcatcactag cgactctgtg 240  
 ataacgtgtg gcaattcttc gtgaaagacg cacaagtgc atttgacaaa aggtcggact 300  
 ttacgcccgc tggttatctg aaagtagttg cttgtgatta tgtaaagcct gtcaacccta 360  
 agtccagtca ggtttgaagc ctaatcgttg g 391



<210> 1801  
 <211> 337  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-035-Q1-E1-E6  
  
 <400> 1801  
  
 aaccatgctc tccatttaga gatcatcacc cagtatgtgc ggggatgaca atttcatttg 60  
 gagtgttgcg acgttatggc tatttatgta acgagacgtg atgagaaaac tgagtgctga 120  
 tgtagtatct cgacaaaccc ttacaattgc cagcgcgttc agtgccttcg aacttcacaa 180  
 tttgaagctt ggagagccgt gttttcatac atcagacgca gaaaactaca atagagactc 240  
 gactaggcct tttagctgtc cctgggtccaa cacggaggag cctgtaacaa tagtacgggc 300  
 cttggacgtg gaaagtcac cagacataac tcctcca 337

<210> 1802  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-035-Q1-E1-E7  
  
 <400> 1802  
  
 acggacgcgt gggaaaagag agagaagaaa gaaaagaaga gaaaagccgt actgaagacc 60  
 gacacaggta ctcgaggaga aaggagaccc aaattaaggt gagagaatgg acgataagga 120  
 actaggcaaa aggatatggt atctgcggta gaacatatga aagaagcagc accgactgtt 180  
 tagcaaaaac acagcactct gcagaaaaga gaaaatgtaa agtatagagt gtgcggcctg 240  
 ccaaatagta gagaagaaat cgatgaaagt gaaagcgagt aaaagatgag gtatagagaa 300  
 tggcggtcct aacagtaagg atccaaaggt agcgaagtaa atagacgttt gaaaggcgtc 360  
 cagtatgaaa ggagaaa 377

<210> 1803  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-E9

<400> 1803

cccggtccgcc cacgcgtccg gaagaactag accgttatat gctggagaca gaagaaaaaa 60

tggagcgtga agagaaagca natggaagtg cacgtgttgc aagttcaact cacaagaga 120

ctgtcagaga aactgcttct agtcgtgtcg agcttccgaa agaggaagaa atcaacgatg 180

aggagcgaga attgcgagag ttggaacaaa gtatggctgt atagttttgg aaagcagtgt 240

tagccactta agagcctgaa ttttaaaata tattacatat atatccacag taaaagttgc 300

gtgtggtaat aaattgtctg tagtctttcg tc 332

<210> 1804

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F1

<400> 1804

atgtggggttg tggagtaagt gcgcttgga gcaactaaa agatggcaag aagaatcatc 60

ggagcttata tgtctgacgc tactgtagcg tctctattta gcgtgaaaat gttgttctac 120

cttacaatac ttgcgttctc tatcactatt gtgggtctta tgggtaagag ttccgacggt 180

atttgggttc acagtgttcc agcgaaagac gaatattgtg catacaagtc ttcccttcaa 240

gtaaaccacc acggcatagc ttctatttgc aagtatatca tggctgtagc agctattggt 300

ttggttatca gcttcttcga gttttggtat gcattctctg gaattttctt caagtggcaa 360

caaaagttgt ggtatattga atctgctatc 390

<210> 1805

<211> 334

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F10

<400> 1805

gagatgcacg gctgggtggct atggagtgtt ttgttggctt gtttgtgttt gttcccacta 60

tccaactccg ttcaacaaga tgaagcgttt gttcctattg gtcctcttcg tgaaaaggat 120

gagcacgcaa cacagccttc acaacctgtt gtaaagccac acggtagtaa ccactggaag 180

ccgctccagt gtactcccaa caaggaaaaa gcagaggcat tgatacaaaa ggcacaaaat 240  
 agtttgagt cgcttttctc aaaccggttg ttcaagcata tagacgtcga aagttgtcaa 300  
 gagtttagag tggtcgaaat aaagcttgac gaaa 334

<210> 1806  
 <211> 474  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-F11  
 <400> 1806

ggtcggagtt caggggtggcc caccgctccg cccacgcgtc cgggaaaagg tggtaaagg 60  
 cttggaaaac gaggagccaa acgtcatcgt aaagtacttc gagataatat tcaaggtatt 120  
 acgaaacctg ctattcgacg tttggcaaga cgtggtggtg taaagcgtat atctggcctt 180  
 atctatgagg agacaaggaa cgtggtgaga gtgtttctgg aaagtgttat tcgtgacgca 240  
 gtaacttaca cggagcacgc tcgtagaaag actgtcactg caatggacgt ggtttatgct 300  
 ttgaaacgcc agggtcgtac gttgtacggt tttggtggtt aagaggcaaa caaagacatg 360  
 gtgtttttca acaccaccag ttgtgaaaga aacttgggtt tcagtctcag tagacccttc 420  
 cttgtttatg anattacagc tttgcaaata taaaanaactt tcattttacg ttgt 474

<210> 1807  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-F12  
 <400> 1807

tccgcccacg caaccgcca cgcgtccgcc caccgctcgg ccaacgcgtt ccaaaaaagg 60  
 aaagctttta agcatgaaaa aaaagaaatc caaaaaaaaaa aagaaaaagg taaaaaaaaag 120  
 gaccgaatca gggtaaaagg tagaggagca agaagagaag aaagaatgct ggggtggagta 180  
 ccgaacaag agaacggaag ttaaacgtaa gaaagaagaa acgtttacga gagaacgaag 240  
 tagaaagaag agagtgtgaa gccgcgtcat aatagaaatc cgaaaagagt agaagaaaag 300

agagagaaga aagaacagaa g

321

<210> 1808

<211> 387

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F2

<400> 1808

aggacgcgtg ggttttgcaa gtttgcactt tgaaagacgc gcttggacta ttgtatcggt 60

gattctgttt ttgtttcggt atccatttat gacatgtcaa gttatttttg ccattcattg 120

ggaagcttac aagttgtgga aaagaaaatt tcctttttat ccacatccga ataatagcca 180

aaacatgtgg tctcgaacta tcgattatgt gagttcttgg ttcgcgtaac aagtcgtcaa 240

gtaaacatgg caactcttct tttatcatct tcttgccat gtccagggtct cctcagaacg 300

atttgataat ctgccaacgt tcgagtcgca aaacctgctt cacaataaca aaaataataa 360

agccatttgc gaataaatat ccagtcg 387

<210> 1809

<211> 279

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F3

<400> 1809

ggtcgaccac gcgtccagaa attgttggtg aaatatgaca ggaagaggaa aaggtggtaa 60

aggtcttgga aaaggaggag ccaaacgtca tcgtaaagta cttcgagata atattcacgg 120

tattacgaaa cctgctattc gacgtttggc aagacctggg ggtgtacacc gtatatctgg 180

ccttatctct gaggagacac ggaacctgtc tagagtgttt ctggaaaatg ttactcgtga 240

cgcagtatcc ttcccggagc acgctcgtg aaagaccgt 279

<210> 1810

<211> 305

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F4

<400> 1810

acccacgcgt ccgaaaagaa aaagaaatga gtggagtagt acaaggagcg aagatgatgg 60  
gagcaggaat ggcaacgata ggttttagcag gagtaggagc aggagtggga atagtatttg 120  
gaagtttggt gaatgcatat gcaaggaacc cagtattgaa gcagcagtta tttggataca 180  
cgatattagg gtttgcgtta acagaggcag tatgactgtt tgcactgatg atgagttttt 240  
tgatactgtt ttcatagtat aggagataca cgacgtagac gagaaatata tcagagagtg 300  
ctggg 305

<210> 1811

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F5

<400> 1811

agttggttgg gtcgttggtg ggacagtcac gtagtagaaa tggctttaga caatgtcaaa 60  
aatgagcaga tggaaagaat ccgcaagaca attatttcaa gggtagcaga cgttcctacc 120  
gtgggtgaaa ttggagcagg ctcaggtctc aatttcctgc actacccttc ttatgtgaag 180  
gatttgacag ttattacttt acaagaagaa ctcagcaaaa gagctcgaca aaaggcacia 240  
cagagaggtc tgaatgtgca tcatattcag ggagatggcc gagtacttcc tttgaaagat 300  
aactcggttg atgtggtcgt agcaaccctt ctattgtgca cagtaagcga tgtcgcgggg 360  
tttcttcaag aagtttctcg tgtgttgaaa caagacggca agtttttcc 409

<210> 1812

<211> 375

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-F6

<400> 1812

gccgaccac gcatccaccc acgcgtccgc ccacgcgtcc ggtcggttctt tggtagggac 60  
ttgtgcgtac ggtgtgtgtg tgtgtgtgtg tgtgtgtaac aactatcagc accacaaaaa 120  
gatggttcgt atgagtgtat tagccgatgc tttgaaatcc atcgccaatg cagaaagaag 180

aggaaagcgt caagttctca tccgcccagag ctccaaagtc atcatacgct tcttgaggt 240  
tatgcaaaaa cacggatata ttggagagtt tgaatatgtg gacgatcatc gctcgggcaa 300  
actcgtcgtt cacttgatag gcagattgaa caagtgcggt gtgatcacac cagcatatga 360  
catgaaagtg cacga 375

<210> 1813  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-035-Q1-E1-F7  
  
<400> 1813

aggacgatat atgtagaatt ttccaacaag caataactca aaaacaacat cagctcgata 60  
cctctcgtgc ggacttggtta aagaggaaac aacatatcca acaaatgcaa gagcaaaaag 120  
aacaggagat caatacacag cgtgcaaaaa ctcttgaaac gttacaaagg cagcgagatt 180  
cactcgaaaa caatttgaaa cttgttgaga ccgaagtgaa cagcatgcaa tccgaactga 240  
gtaatcacac agcgtcttta aacgaagcac caaaaatga cgatgacttt gaatacctta 300  
ccaattttcg aaatagcctt gtggaacagg tcgatgcgaa acaacgagag ttgcaagaat 360  
ggaaagaaca aagcaggctt cgtcagatgc aactc 395

<210> 1814  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-035-Q1-E1-G10  
  
<400> 1814

gtccgccaac gcgaccgcc acggtccgg caggacaaac ggacaaggac caccacgttg 60  
gcaacgttgt ttaccaaacc aacgtcgcag aaataagaga agaatttctt cgtaaagcaa 120  
agagagttca tccagacgga caaagacata atgaacgtgc caatgaggag ttttgtcatt 180  
tgaaagagga gtatgaacgt ctctggagg caacccaaag caaccacaca acgagtagaa 240  
acatacttgt ggaacacatt cccttgaaa agtggaagag aacaacgaca ttgcaagata 300  
tggaacaata caactacgcg gagaatcatc attgccaaca agtatacgtt gagacctact 360

gtcgatgtgg tggactagtc actatagaag cagatgatga cgaggatatt aggagactat 420  
tgaataataa tgaga 435

<210> 1815  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-035-Q1-E1-G11  
  
<400> 1815

gtcgcccgac gcgtccgcac attggaaaag atagacttgt ctcaaggcag ctttaaagta 60  
ctccaagact gtgacaaaga tttagaatgt gatcataata ccaagtttca gttggnactt 120  
attcagtatg gtctcttttc acctggtttt tggacgagag aaaatgttct gctcttctat 180  
ttggagctcg tgtcaggtgt attcataagg gacactctct accttttcta caacaaaggt 240  
gaagaacatt tgtttgcgag tttaatgctg ttgttgagaga cacaagtctc actgtatgca 300  
gacataaaaa caaactggga gaaacgacac tttatcgttg gcctcatcgt caggctctttg 360  
tgtgaggaat atcaacgaca gtattcagag ctatgttcac cgaatgaaag cacgaaagat 420  
atgctactag taaacagatt gtttcaaa 448

<210> 1816  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-035-Q1-E1-G12  
  
<400> 1816

agatagactt gtctcaaggc agcttttaaag tactccaaga ctgtgacaag gatttagaat 60  
gtgatcataa taccaagttt cagttgggac ttaatcagta tgggtctctt tcacctgggt 120  
tttgacgag agaaaatggt ctgcgcttct aattggagct cgtgtcaggt gtattcataa 180  
aggacactct ctaccttttc tacaacaaag gtgaagaaca tttgtttgag agtttaaatgc 240  
tgttggttga gacacaagtc tcaactgtatg cagacataat aacaaactgg gagaaacgag 300  
actttatcgt tgggctcatc gtcaggctctt tgtgtgagga atatcaacga cagtagtcag 360  
agctatgttc accgaggtga aag 383

<210> 1817  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-G2

<400> 1817

```
agcgaaatga gcgattgtca gatgcattgc ctaacgttta ctggttgcct ttccaactca 60
tacttgtcaa agagcttttg cacaagatgt gaaaaaata acaggtacaa aagaaatttt 120
aaagtcggaa agcaattatc ttgtcggata aaggcttccc ttggagaaga gtttgataaa 180
gttgetctcc ctacccatt tggaatagta tttcgtgact tgaaccagtt acctgaaaat 240
atactggata tagcaagtgc cgctgataaa agtgagacca gacgagactt ttttacagaa 300
gagaagtttg aggagttgac tggcataatt cgtacaaaag gcggtggcac agttgttgtt 360
cctaacgtct ccaacacacc gt 382
```

<210> 1818  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-G3

<400> 1818

```
aggaaatttg tagtgaaacc gatcattggc tccgaatgga atccgatgcg gttcaatcgc 60
agttgttatc ttttgacgtt cctttgactt tttctgctgc ctgttttctg ttgtgttttc 120
tgttttgtgc atttacagga atgaatacgg gaattcctat ttatcattca tcgcatgcga 180
tcgactattg gttgggaatg atacttatag ttgtggtata tcttagcagt tatgcgtgga 240
taatgacatg aaagcttggt cgaagtggtc cgaaactatc tcctggacaa gttccctttg 300
atcttgccaa acgtgcttcg catcatacat caacacagga tagtgacaat agtggt 356
```

<210> 1819  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-G4



<400> 1819

cccacgcgtc cgcaagcacc aaagaaaccg cacgttttgc gattggacgt tgctttcttt 60

gtaggaaatt tgcgatgtcc gacgatcaga cgacaagact cggctctttg tggttgtctc 120

gacaactatg tatctctcta tggatgttgt ggtgtggaat gaggtactcg tataggttgg 180

aacgttttgg catccattga ctagtgaata atactcgatt ccgtatatTT tatctcttta 240

ttttctactt gtacataaaa ctagttatat gtctggtagc tataaaagcc ctttgccatc 300

tcaacattta tataaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 360

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaagg gggggccccc caaa 414

<210> 1820

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-G5

<400> 1820

gttgaagaaa aaagagttgt ctgaggacca aacagagtga caagaagaga tggcaaggag 60

aatattgggt gcttatatgg gagatgccac agtggcaact ctgttcagta tcaaaatggt 120

gttctatctt actatcatgg gtttctccat aactatcttg gctctcatgg gaaagaactc 180

ggatgggtatt tggatacata gtgtgccacc tgcagaacaa tattgtgcat acaagtcttc 240

attggaggtg aaccaccatg gaattgcttc ctattgcaag tatatcgttg ccgtagctgc 300

tattgggttg gttatctcgt ttttccagtt ttgctacggc ctgttgggta tctttttcaa 360

gtggcaacaa aagttgtggt atattgaaga tgccttcaat ccaattttcc gggc 414

<210> 1821

<211> 425

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-G9

<400> 1821

cgtccgggat tttaggaatg aatgaatggt tccatcgctc ccgtcgttgt ttttgtttcc 60

agaccgactt ggaaacgaca tcgatcatat atagtgtggt acaatggggc ttcaatgata 120

ggtctgacgc tacaaagtga aagtctgctt gtgtttcccc tgggcgaccg gaaatgaacc 180  
 caaattacaa ggtagtata ttgaaagaat ggccgtcagt actttacctg tgatgagaac 240  
 atttttgcct gctttcacag tttatatgac tgtcagagtg atttgtttta tttgcgtctg 300  
 agaatatatt ttactattgg aaaacaactt tttccctagt acatatctca attgtgtttt 360  
 tgtaggggtt gctattcagg acttgtaaatt tctttacttc ggtcaccagc tatctattta 420  
 acaag 425

<210> 1822  
 <211> 313  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-H1

<400> 1822  
 acgcgtgttg acttctgtgg agaaggatca aactttgtcc aaaggagcgg agatgcatca 60  
 agaagagtct gcataaagga ctatttttgt atagttgccca tcatggacgg tttgtgtgga 120  
 aagttgtgat tgtgtagaga gtgtgtttgt gagttgtgtg tgggtattgtt gttttacgtc 180  
 tttgtgagt accactcgta ngagtgtgat gaatcctcac aaagatgata gaagacaata 240  
 aaacgatgtt gttttggtat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300  
 aaaaattttt ttt 313

<210> 1823  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-H11

<400> 1823  
 cgtaccaaag cgaatgataa gattcgtttt ctgttttcac atgtcgacgt ggaagcttac 60  
 ggagagagcg ttttacacag tacacatgta cgtgatttga agagcgatcg agtgaaatat 120  
 atgccatgtt ctggctgaat ctttgcgggtt ggtcatttac cagctaccaa gtttctagac 180  
 aatcagttgg cgttgatga tgatggatat attagaacgg ttccatgaag cagacaacc 240

aacgttgctg gtgtttttgc ttgtggcgat gttcaagata acaaattggag acaagctggt 300  
 acggctgcat gtactggatg tatggctgca ttggcagctg aacattactt gcaaactactg 360  
 gacaacggac atctcgatgc atgaatatct cctctttgt 399

<210> 1824  
 <211> 291  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-H12

<400> 1824  
 cgtgttgcca agcgttgctg ttatcgtcta tggcgggtatt tgaaagtgat atagttggtc 60  
 ctgcaattca ctttacgaaa aagtataatt caaggangcg ctacaaggag tgcatttcgt 120  
 gctttaatgc ttcgggtggt aaaccagggt ggttcttttg acataagccg aaaattactc 180  
 gcaacgggct atacgactga taagggtatg aagaccaata atgggtgctgt tcgagaaagt 240  
 gacttttacg agagagtctt ttcaagaata gcttcaaac gctctgactt t 291

<210> 1825  
 <211> 262  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-H2

<400> 1825  
 aaaaaaagat aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaataaagg 60  
 aaaaaatata aaagattaaa aaattaaagg ttgggtaaaa agtttttaaat gtttatagag 120  
 tgtatatgta aatgtatatg gtattgatgg tttatctttt tgattgtgaa gacgcgggtg 180  
 aatatgatga ttcccgagtt aaatgatatg ctacattaaa aagatgttgt attggtaaaa 240  
 aaggttacat tttttttttt ta 262

<210> 1826  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-035-Q1-E1-H3

<400> 1826

agggtggttc gtggatgacc tttctactca tacttgccct tgttgcggtt tatttttttg 60  
gcgaacgagg canaaagaag aaaagtccga aatatagttg ggtaccgcct accttaaacc 120  
acctatcaga gtttccagcg aattcgaaca acagtcgttg tacagttaga acttgtaaag 180  
aagagtgtaa attggtactt tgtgttcgtt ccgtaagctg ctctttttac caaataaata 240  
cgacaagtat caacctgttt attaagattt gaagatggga aagggtaaaa tagctgcaca 300  
gtgtggacac gcaacactcg gtgcctatca agatacactt cggaccaacc ct 352

<210> 1827

<211> 193

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-H4

<400> 1827

acctttctgc tcatacttgc ctttgttgcg ggctatTTTT tgggcgaacg atgcataaag 60  
gagaaaagtc tgatatatag ttgggtaccg cctaggtgtg gcacctatca tacgttccag 120  
cacagtcaga gacaagttag cagagttgtg taggttctga agtgggagtg gagagagtgg 180  
cattgagtcc aat 193

<210> 1828

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-H5

<400> 1828

aggagaattt tgtgggtccac gatatacaaa ctgacactgg taaacttgat agaaacgcag 60  
ttaaaggcca tcaagtctca gtacgtcgtg aatgtcatgg aaagcggacc tggctttggt 120  
gtggaggtgt tgtttgcctc tagtagactt ggatgcaaatt tttctgttgg ttgcaagtgc 180  
gaaaaccttt ggcatatttc tccaatagag tgggagttga agagtatttt tgggtcaatgt 240  
gaacgagtgt ttgcattgaa ggaacagttg gatacgtttg taagcgagac ttgtccgctt 300

ttagatggca tgaaagcagt gcgtcaattt ttagcgaaaa tggaacccgt tcagactatt 360  
 taacatcaac gttgcaagtg tcctatTTTT ggatgccttg tggat 405

<210> 1829  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-H6  
 <400> 1829

atcgaattta gctgttggat aaaattcgga acaaattatc ctcgattaga ttacgcctac 60  
 gtagatatga ctgacgacgg tagttggatg ttgtacctca ttcaagtttc tgtttcatct 120  
 tttccagctc ataacacaga ctgacgacag ttggaacggt tgtttaagaa aactggtgga 180  
 actgttcaac ttgcttcggt actaaattcg ttctttgctg aggtttttga agtctcgct 240  
 gtgtacgatg tcagggagaa gatagtgaac tttgaggatga cagactctca tggcatgtct 300  
 tttcgagacc gaatatctat tttgtatgtg actccattga caagagagga cgcgaaagca 360  
 gacagcgctc ctgaatttgt agagtctcct gcttttgaca ac 402

<210> 1830  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-H8  
 <400> 1830

cccacgcgtc cgcgacgcg tgggttcaaa gagtgacgtg gaaagtagtg tgaaaagtga 60  
 accaacgagc agcaaagtgc aacaaccaga aaagcagtc actccgccct cgtcacctcc 120  
 caagccacct cagcaagttg ttgagacaag taagcagagt tttgtaggtt ctgaagtggg 180  
 agtaaagaga gtggcaatga cacgaatgag gcgtcgtatt gcggaacgac taaaagaagc 240  
 gcagaatact gccgctatgc ttacgacatt taatgaagta gatatgtctg ctttgatgga 300  
 gttgagaaat agttataagg aagcctttga aaagaagcat ggcattcgtt taggccttat 360  
 gtccgcattt accaaagcag c 381

<210> 1831

<211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-A1  
 <400> 1831

agcaagtttc catcagacat gttcaagaaa atgagcacgt tgggtgttact tgtagcttt 60  
 ctatgcggta tattagccat tgtgcatggt gcgccaccag tgatggcatc accaccaggc 120  
 ttccaacagg aaccaactgt tcatgttccct gaaaactatg gtagcaacta tgactcagga 180  
 aatggacatt ccatcaatta tatgttacag ccacatatcc cattcattcc tattggtagt 240  
 ccttctatcg ccaactctcc ttcctatgca tcggatcaat atgctcaagc tttgtctgct 300  
 gccaacgcc tttcattcct ctgcggtaat gcaacggcac aaatcaacgc aactgttcaa 360  
 tgtcagcttg cgttctctaa ttccactgca actgcttctg gtcttggatt ggtagaaac 419

<210> 1832  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-A4  
 <400> 1832

cttggaacca aactaaagaa gggcaacaga aaccaccgga gctagaaggc cggaaccaac 60  
 ggtaccgccc caattaacct ggaaaatgtg gtgcaacctt aaaaaacttg cgtccccaac 120  
 cacaattgtg ggctaattgg gtaaaatttc caacgggtatt tgggttcaca ctgttcaagc 180  
 aaaagacgaa tattgtgcat acaagtcttc ctttcaagta aaccaccacg gcatagcttc 240  
 ctattgcaag tatatcatgg ctgtagcagc tattggtttg gttatcagct tcttcgagtt 300  
 ttggatatgca ttcctcggaa ttttcttcaa gtggcaacaa aagttgtggt atattgaatc 360  
 tgctatcaac gtgtttttct gggct 385

<210> 1833  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-A6

<400> 1833

agttaccaat ggtgtttcga atgtcttttg tgcaacttgg agtacggttt ctattacatt 60  
caggaaccaa ctctactcc ctattatccc agctattcca gttcttatcc gatgtacagc 120  
agtagctatt ccagctacag cagttaccca tcttagacaa ccagttctta tagctcataa 180  
taagaaagga tgctgaatgg ttggtcaggc gaaggatgcc ttagaatatt ttcgttttgt 240  
ttgttcggtg aattctaaat gaataaaggc aatatagttg tcaggaaaat gtagacgtta 300  
aaaaagaaac tggagttatc cctgacatta aagtatacaa tggaattact ccgattcctg 360  
gtaggaaagg atgaaa 376

<210> 1834

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-036-Q1-E1-A7

<400> 1834

cccacgcgtc cgcccacgcg tccgagaaat tgattgcatt ttgttcgaag agtgatggcg 60  
attcttcttt gatagtatct cttgttcaac atataggagg aaactttgaa aagatggggtt 120  
gggaagaatc tcaaatagaa gaattgcttt ccacgcttta tgaaaagaag cttttattgg 180  
catccgtact aggcacgtt agtgggtttc catctctgtg caatcgttat ctttcacagt 240  
tggaagaat agcttctcca gagcctgttg acctagctat cctacctttg atgaagactt 300  
gggtgttgga aggangagaa gatgaaattt ccaagagatt gatagctatt ggtcgtactt 360  
ggctatttgc cgcactttgt gcgcgtttgt tggagaagaa tagaattatg 410

<210> 1835

<211> 339

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-036-Q1-E1-A8

<400> 1835

gaaatgttca agttgatgcc agccaagcac cacagttact attatacctt gtttctattg 60

ggatgcatag gcacgttgct attatctgct gcaaattggac aatccgtaaa aacagaacag 120  
 agtgggactc aacaagcaaa gaatcaaacc gctgttcctc ctcgggtcca gtggaaaaga 180  
 gctccttgga cgatagtaga cagcttctac gctggaattg cactgtttta tttgatattc 240  
 tttgctattg gtacttggag aaatgtaaca ttgtccaagc ggataggtca actgttgagt 300  
 tctgtgctg cntctcagtt tgcttggatt ggtacagac 339

<210> 1836  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-B11  
 <400> 1836

cacgcgaccg gtattactga tgccttgttt ttagttttac caggcttata ctttgttatt 60  
 actggtaatc gtatattctg tagacgctcg gacttgaatg aaacggaagc attggagtcc 120  
 tgcttttctg ttatgaagat atgccccacg tacaagtcgt tggagattct tttggaaggc 180  
 gagcaaatat atgtagaaga actcgtgcct attgtatttc gtttcgttga agactttctt 240  
 cattttcttt ttgacaattg gaaaaccgta agttacggct ctccctcgaa gaaggaccta 300  
 cagtctgggt tgtggagaga gcaagcgcag aactggattc gttcttttctg tcagctgtac 360  
 acagaagtgg agttatttat gaagatggta aatacgatat ccacttgtga tcgatcgctc 420  
 gtaaacattt taccatcgcc agttgttttc 450

<210> 1837  
 <211> 229  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-B2  
 <400> 1837

catgcaacta ggtagagcaa ccgggtgatt aatgaggtgt gataaattgg aggatcatga 60  
 tggcacggaa gaatgttata agtggtgaga gtagaagcca taacggatgt aataccggga 120  
 atctgatagg aggacagctt cattggagct gataaaaggt cgtgtcagga gaagtccgca 180  
 ttggtgacga ttggtccacg tccaggaag tacgaccag caatgagga 229



<210> 1838  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-B3

<400> 1838

aagttgagcc ttgtggtggt gatccccgga attaaccaac ttattggaaa tccgccggcc 60  
ttaaaaaaca taactgcaat tattgaaaag cctgacataa aatggataac taggacaaat 120  
ctcattactt gtctgaattc tgcagaagga aatgttacgg ttgacttgtc ccggcagtgt 180  
accttgaagg atatattttc attgaagctt ctgcacaata actttaagtt ggcgtgtttt 240  
aatgatgcct tgtttttagt ttaccaggc ttatcctttg ttattactgg taatcgtata 300  
ttctgtagac gctcggactt gaatgaaacg gaagcattgg agtcctgctt ttcgtttatg 360  
aagatatgcc ccacg 375

<210> 1839  
<211> 353  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-B4

<400> 1839

ccggattacc aaaccagaaa atgggaatta aaaggtaaaa accaggaacg gttaacaaaa 60  
aaaggaattt aaagaaaaaa attgtaaggc ggcttcatac taaaaatccg aacggattat 120  
aacaaaattc agaaaaaagg aaaattaaga taaaaccgt actgaaaacc gaccagga 180  
cccaaggata aaggaaaccc aaattaaggt gaaataatgg acaataagga actaggcaaa 240  
aggatatggt atctgaggta gaacatatga atgaagcagc accgactggt aagcacaaca 300  
cagcactctg cataaaagag aaaatgtaca gtatagactg tgcggcctgc caa 353

<210> 1840  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-B5

<400> 1840

gagaaagaag aaaaaatgag cgatgcatcc gtcgagcaag tacaacagag actgcacgag 60  
ttgttagaaa acctggatac gttggaaaga caagtttccc aactagagta cgacagttgc 120  
cgcaaggaaa ccaaccaaga cgtgcagcaa ctcttaccac aatgcaaata cttggaagag 180  
tatttggttac aactagctct acaggtggac gggttacaag taagagccta gttgccttgg 240  
tatatactcg tgtgatacat ttggtcctag atttctagag aaagtgcgca aaaggctttt 300  
cgtgagaaga gacaagaaga ggcaaaggaa attaccaaac tattgtctca acgaaagaaa 360  
accaaccaac gagtgcaact attgctgaaa cgattggata ctgtagtagc caacttgtca 420  
taactctgaa a 431

<210> 1841

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-B6

<400> 1841

gaccacgca tccaggcaca catcggacca cacttcatgc aacagcgtca gcggatacat 60  
cagatacaga agcagattct acagcatttg gaaaaggatg aactcgctca actttgtctc 120  
gtcttcgttt cttacctgtc agaataccca gatgaagaca tcacgtacac aagtattgat 180  
gccatacaga catgtagtga gtagctctaa gtctctgaga ctttcgttcc aaatttagga 240  
tatagacacg tggagtcgtc gcaagtttct tctcattca cttggattcg tgtcatctgc 300  
gctgttccgt tattctcaag attcttgggc ttccagagac tatgcatgtg ttggatattt 360  
gcaccgaggt gacaagggtg acatagacaa cgctattatc agagc 405

<210> 1842

<211> 443

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-C10

<400> 1842

ccacgcgtac ggaagaagac ttggaacaag ttgtccctct cattgcccgc gtcactactg 60

ctactttata aagcatagga aaaattatat tgcaagattg ttcattgtcca ataataagag 120  
aatgccaaaa agaacagata ctttggcttt atttgatgta gatggaactc taacaccgtc 180  
tcgatgtcaa gcatctcgcg aaatgttggg gtttttaaga aagttgcgaa acgaggtata 240  
cactgctata gtgggtgggt cggacttggc aaaacaagaa gaacagctgg gtcccactat 300  
tttagaggat ttcgattatg tgttttccga aaatggtctc gtggcatatg aaaatggaaa 360  
attgatccac acgcaaaact tggcaaaaaca cttgggagag gagaaactga aaaacgtgat 420  
caatagttgt ttacattata ttg 443

<210> 1843  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-C3  
<400> 1843

acgcgtccag gtagcaactg cgcgctcggt atcatacaac tacaactgtc catagagtac 60  
cagcagacga agaaaaggaa tctgtcggta taaagcctaa acgtttgcat cagcctcttg 120  
gagtttatcc acaaggaacc aatctggaag aattgagaga aaattggcaa attgacccta 180  
tggaacttat ctcgaaagta cctccgatag tagtcaatgg ctatgtcata ccgtgtaatg 240  
gaggccgagg tccattagga catccaatag aatatattcg tttggaagca ctttatcctt 300  
caacttgcaa atattgtggt ttgcgatata tcaacaaaga cacttttgaa aagtggaaaa 360  
aagaaaataa cgaataataa aatggaaaga ttttaaaaaa aaaaaagcta ccgac 416

<210> 1844  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-C6  
<400> 1844

accacgcgt ccggttggag gctccgatta tcgtcgacgc caaaggatcat cttttaggtc 60  
gccttgcttc tatagtagcc aaggaaatat taagtgttca aaagatcgtc gtcgtgcgtt 120  
gcgaagaact gaatatttct ggagaacatc atcgacacaa gctcaagttc aagtcttatt 180

tgagaaagag gatgaacacg aatccttccc ggggccctta tcatcatcgc tctccttccc 240  
 aaatattctt caaagcagtg agaggaatgg tgcctagaag aacagcacgt ggtaccgctg 300  
 cgttgagtcg attaaaggtg ttcgaaggtg tacctccgcc gtatgacaag atgaagcgaa 360  
 tggtagttcc tcaagcttta cgtgtggtgc gattgccacc agataggaaa tacactcaat 420  
 tgggcact 428

<210> 1845  
 <211> 119  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-C7

<400> 1845

acccacgcat ccagtcaagc gtcaggttat atggcaacat caaagtttat ggttcaaggt 60  
 agcaggatatg agtggatgat ttgatattag tttgggagat attaagtggg atgagatat 119

<210> 1846  
 <211> 82  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-C8

<400> 1846

gatttggttaa cattcaagtt tatgggtcac ggttgcattg tttagtgtaa tattctctgt 60  
 tagttttgga tcgtttgttt tg 82

<210> 1847  
 <211> 99  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-C9

<400> 1847

atgctctttc ttcattgctt ttcttattca ggttttggtg tctcgtcttc ttgtcttgtc 60  
 tgttctcttc ttctggctta tgtctttttg gctcccatt 99

<210> 1848

<211> 259  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-036-Q1-E1-D1  
  
 <400> 1848  
  
 acgtcagact caattatatg aaattcttag acatccaatt cctaaaccaa ctccaaagga 60  
 aacttaatta cctccaaatt acggaataac cttttcggtg ttcatttgaa acctaatect 120  
 gttaaaccac aagtttttac caaaaattta gccaatcctt tgaacaaaag ttttttgaac 180  
 caccttaaac ctctcccaag ggcacccaag cgtctcccggt tggccccctta taagacacaa 240  
 attcccccca gaaaattat 259

<210> 1849  
 <211> 466  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-036-Q1-E1-D10  
  
 <400> 1849  
  
 cacgcgtccg gtagtttttg ggtgacgttg tattgttatc catgaagcaa ccccgctcgag 60  
 ttttctttca acatagttat gtttttaggtg gaactcgtgc ctttttagtg atatttgtgt 120  
 caaagggagg ttttagcttca gatataaaaa atgttgacgc caatagtttc tgtataccac 180  
 aaagacgaga gggagtcgca tatcctggaa gagcaaacca aaaaggatta tcagaaggtc 240  
 ttatgcagtg gaaacaaggg gctgcaggac ctttttttac tcttcagta ctacatgtg 300  
 gaagacgcgc agaatacttc ggccgtttct gttttggact caaagtcagg tttcggttct 360  
 tgtacatcct gcagaaaaaa gtctctctgc cgtctctca ctgcaaccag tagcaatatg 420  
 atttctgtc gtctaagtag tgatattgaa gagtcataca accaaa 466

<210> 1850  
 <211> 478  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-036-Q1-E1-D12  
  
 <400> 1850

gggtgcccc acgcgtccgg aagtatctcc tgatttctat gcctgggtat ttcttaaata 60  
 tgatcacgtg ggagtaggaa caggaacagt tatcgatcgt ccttccatta agaaatatca 120  
 ggcagcaata cgtacaagag cagcatcgaa actcagtggg ggtcatatta ttaaagtaga 180  
 ggcacatccg attcctgaac atcctcgacc aagaagagta gttggaagag ttgctctcgt 240  
 cggtgatgct gcaggatatg ttacaaaatg ttccggtgaa ggtatttact ttgcagcgaa 300  
 atcgggacgt atgtgtgcag aagctattgc ggagatttct ttacaaggag aaagaattcc 360  
 ttccgaatcc gaactgaagg cgacttatct gaagagatgg gatagcaagt attggtcgac 420  
 ttacaaagta ttgatgtat tacaagcagt atttatcgca ataatttgc tcgggaag 478

<210> 1851  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-D2

<400> 1851

accacgcgtc cgcgatgatt cgatgcggca caagacagtt gtgggtggcaa ctgcgcgctc 60  
 gttatcatat aactactact gtccatagag tagcaggaga agaagaaaag gaatcggtcg 120  
 gtataaagcc caaacgtttg catcagcctc ttggagttta tccacaagga accaatctgg 180  
 aagaagtgag agaaaagtgg caaagtgacg ctatggaact tatctcgaaa gtacctccga 240  
 tagtagtcga tggctatgtc atagcgtgta atggaggcgg tgggtccatta ggacatccaa 300  
 tagaatatat tcgttttgaa gcaccttatc cttcaacttg caaatattgt ggtttgcgat 360  
 atatcaacaa agacactttt gaaaagtgga aaaaggaaaa taacgaataa taaaatggaa 420  
 agatttttaa aataa 435

<210> 1852  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-D3

<400> 1852

acgcgtcgag cgagtgtgaa cgatgcttga gcggcagaaa attcatttgt tgtcaccact 60

gtacccccct tatctttcag ttggttcagt ccatgttttc ggaagcgacc aagaaaaggg 120  
 ttccgtctgt tccgaaccca tttatttgcc tcaagctcat caaatttttt cgcgaagtac 180  
 tattcccgaa accctaggaa aattccttgc gcgttgactc cattggaatt ttcacgattt 240  
 tagctccgat agtcgtcgat tgatacgtca tagcgtgtaa tggacgcagt ggtccattat 300  
 gtgcacccat actattttatt cttttgcgtg caacttctcc ttcaactttc 350

<210> 1853  
 <211> 206  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-036-Q1-E1-D4

<400> 1853

gtttagtgtgta acactgccta ccattgttgt ccagaaccaa agcctgaaaa tggaagccat 60  
 tcaagaattg tttcaatatc cattgtatac tattgctaag aagaatctaa tggaaccaa 120  
 agcgtatttg agcgaagtttt ctttgtttcg tccatgtntt ggaggtaatg actgtgagca 180  
 ttagaaagaa gaagacagca agaaac 206

<210> 1854  
 <211> 300  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-D5

<400> 1854

gttgctgctg cttttgttaa tgagcttccg agagaactta tcttgagaat tccatttatc 60  
 ttggctcagg tgttcactat gccatcaaaa agttagagtg ttggccaata aaatcgtaca 120  
 accattttat tctgggaaac cacagctttt gggttcttggg ggtactatgc tcgctgggtca 180  
 ggaacttaac tgaattcacg gaagggatga catctactta ttccaatcat cgatatggct 240  
 tactgattcc aaaacgtcca ctctatcatg ggtggaatcc aacttacaaa acctcttttt 300

<210> 1855  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-036-Q1-E1-D6

<400> 1855

attcgcccga tcgacccacg cgaactaccc acgcngttct cgagcgcacg gtgctcactc 60  
cagttatggg cnggtatccn atttggatgt tcgnagctgc tnggcttttt gatgcaanaa 120  
ggaattggaa gtatttcgna aaaggcattg taagaaccca aatgagacct taatttagct 180  
atcttgggaa ggagccaata gtatccgaat aaaatacaac gtcacccaga catttattat 240  
caaagagtgg atgaaatgat tatcgagggt ggcattgtgt atacttttct tcgagtatta 300  
tattccatgc cgattggaga ctccatttat gacgagcctg gatcacattt ggtctaaaat 360  
aataagacag aagccaaaga aagaaacgta tagatacact tttccagtcg attttg 416

<210> 1856  
<211> 158  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-D7

<400> 1856

gtccgatatc tatttattaa cgccaatatt tacggatatc attacgatta tatatcgtct 60  
tattcttatt tatataaaat accatctata tatatactat gttgattatt cttctcctag 120  
atcatttttt tccgggtaac taaatctttt gttttctc 158

<210> 1857  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-D8

<400> 1857

agaggacatg gaaggaaggc gcagtatcct aagcaagtgt ggcacccctt tggaggcaag 60  
tttcctcatc cgagggattg gaagaagcac acgaatatag ctacccttat tatggcactc 120  
actgtgatcc ctattattta ctatgccgag aagcactactg tctattacca gtatccttat 180  
cataagattc cttggaggcc caatttgaaa acttttgatg aagatttgga ggaacgaaga 240



aaggccaaga tggagaggaa aagtgttgca agcgatggtg atgaacagct cgattcgtag 300  
aacttgggaa aaaaggcatt ccttgtttgt tgaagtgttt tcgataaatg cacttgtcaa 360  
ctagttcaag taaatcctag tttt 384

<210> 1858  
<211> 456  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-D9

<400> 1858

ccacgcgtcc gccaacgcgt ccgcaaagag agggaattcc cggattccaa cccgtatatc 60  
tgtatgatga aggttccaca attgactgga ttccttgccg acgtaaactt acgtgcagtc 120  
atccgggtat caagttccac tatggacccg acaattggta caaccacgat gtatcgatac 180  
tagaagttga tggaaacttt gacaagttgg aggaacttat ttacatcgag tcgcatctta 240  
ataatacttc cacgaaattt tatggggaaa taactcaaca actcttgagg aacgcttctg 300  
ctccaggatc taataacgga actggactct tccaagttct catagcctta aagataagac 360  
aactttatga agaacttaca ggaaagaata tagctcctgt tctcgtttag ttacaacggt 420  
attctcttcc aattatgtag taaacttcgt agtcgt 456

<210> 1859  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-E1

<400> 1859

cacgcgtcca atggaatgat ggatgatatt atagaagaga agagaaacta aaagaaggcc 60  
ctggaacaag gtactttggg ggaaatagat ggcggcgatg tatccaaagc atcgtttccg 120  
atattggata ggaaagggtt ccaagacgcg agtaaatggt tgaaaattga cggacaagga 180  
catgtagtat tccataagaa gcacaagttg atggccaaaa attgcgtagt tcacggcaac 240  
ggtgcgcaag aaaatgcca aatacgctaa agcagctggg caatcatttc aaagccatcg 300  
atgaggacaa ggaatgagat atcttttagct cgctatatgt agagaaagag agagagagat 360

gcaagaaaac ttggataaaa atacaatcat gt

392

<210> 1860  
<211> 307  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-E10  
  
<400> 1860

cacgcgtacg ccaacgcgtc cgcccacgcg tccgcccacg cgtcagagag ctttgaaggt 60  
ctcatggata atgtgtgaaa gcgttgaaat cagtgtatg tttatgatgg tcgatatgat 120  
ggcaaggttg tgggtgggtc gtggtgtggg aaacatagta tttccctgcc agcaattggc 180  
agttactatc atcgagagca cctaactctg atctccgcc aagttagttt tattctacta 240  
cacctttctg ggcgagggga taatgacgga ttgtttgagg ttggttgca tgttatgagg 300  
gacattg 307

<210> 1861  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-E3  
  
<400> 1861

atatataaag ctaacgttca aataaactgc ctttaaatac ttttaaaagg acacaactta 60  
ataattaagt ttcaacctga tagaaatcca gaacaacggg aagaaactga aagaaacttt 120  
aaaagagtca aagaagctta tgatttatta aggcagcgaa aggagaacca gtttgaaagg 180  
acggaatatc gttctggaac ttcttctcgg tccagctacc gtcaggactc taggaaaact 240  
caaactcgta acgcctatta tactggacag cattattcag gtttcagcag gactagcaat 300  
cggcttacga agcctcctcg tatgttggat attcatgggt tgcaaattct cgtcttt 357

<210> 1862  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-E4

<400> 1862

acgcgtccag tgaagatgc aatctagcca tgctccaaat ggtatgctga tagaacgtct 60  
tctggagttg aacataataa tgaagtttca tctgggtttg cgatccaaga gacaacggga 120  
acgattcggt ggagactctt taaggagagt cagctcgcg cttatgatata ttattgcagc 180  
gttaggagaa ccagtttgaa aggacggaat atcgttctgg aacttcttct ctgtccaact 240  
accgtcagga ctctatgaaa actcaaactc gtaacgccta ttatactgga cagcattatt 300  
caggtttcag catgactagc aatcgggtcta cgaggcctcc tctatgttg gatattcatg 360  
gtttgcaa at tctcgtcttt actcta 386

<210> 1863

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-E6

<400> 1863

accacgcgt ccgcggacgc gtgggcggac gcgtggggca agcgtgaacc gtgagggtag 60  
ttcatcatgg ttgagacaaa acttcaagat ggtgttagtg cttcgctttg gactgttcgt 120  
ctcttcctct acacagttat tttagcattc tctgtcacta tcattggctt ggatggacgt 180  
taagcagaca acatatggga cgatagctta ttctatgatg ggaagtacat taacttttgt 240  
gcttattctg cctcttctgt tgtaaaacga ggggaccatg gagcgtgtaa atatgtcatg 300  
gcgttggtgt ctaatagttt gattctagtc tttttcttgg ggctttatac attttagat 360  
gcgttgatc ctattcttaa caaggtttgg tttactgaat tggg 404

<210> 1864

<211> 352

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-E7

<400> 1864

cgaccacgc atccaccac gcgtccgcgg acgcgtgggc ggacgcgtgg ggcaagcgtg 60  
aatcactggg ggtagttcat cagtgggtga gacgaaaact tcatgatggt gttagtgtt 120

ctctgtgggc tgttcgtctc ttcattctaga taattaattt agcattctct gtcactatca 180  
 ttggattgga tggacgttca gcagacaaca tatcggacga gagcttaatc tatgattgga 240  
 aatatattaa cttttgtgct tattctgcct cttctgttgt agatggaggg gactatggaa 300  
 cgtgtacata tgtcatggcg ttggtgtcta atggtatgat tctagtcctt tt 352

<210> 1865  
 <211> 469  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-E9  
 <400> 1865

gggtgcccc acgcgtccgc caacgcgtcc gccacgcgt ccgcccacgc gtccggagct 60  
 ttgaggtctc tggtagtggt gaagcgttga atcaagctat tttatgtact cgatatgatg 120  
 gcaaagttgt ggtgggttcg tggtttgga aacagagtat ttcctgccca gcaattggaa 180  
 gttattatca tcgaagtcac ctaactctga tctcctccca agttagtttt attccaccac 240  
 atctttctgg gcgatgggat aagaagcgaa ggtttgaggt tgcttgcat tttattagga 300  
 aattgcaacc atcacgttta atcagtaaag ttgttaaaat agacgaggct agtgaagtgt 360  
 atcgacaaat ggatgaaaac ccgatcatt gtgttcagat attgttttct tatgagcata 420  
 caacataatg ccatttgtgt ttatttctca atcatatcta ttctactcc 469

<210> 1866  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-F10  
 <400> 1866

ccacgcgtcc gcagaagcta agcgccctca ggcttggtta gtactgaggt gagggatcac 60  
 tcgggaaccc caagtgccgc agcgttgaaa atttttcaag tttttcgga gtaataatat 120  
 gtgttgaaat atttttctac taagaagttc tttttgcttg gcgctgtttg aaaataacgg 180  
 aatgattctt gtctgacca gtcataggg tcaagggatg actgtaagag gtatccaata 240  
 acttgatatt tccatogtat gacaagaggc ttgttgga aaagcagcgg ataacttttg 300

cgccgattgc gtcgtgctta agttgctcac tttcctgctg accaagaggt ttcaaacct 360  
gcagtgaaag gagaaatata ttctcactga ggaacttgga ctgagcgact agggcaagat 420  
gcgtgttggt tgggttcggt ttttgt 446

<210> 1867  
<211> 266  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-F11  
  
<400> 1867

cacgcgtacg ctatgactca tcgcactcag gcgtggtaat tactgaagtg tatggatcac 60  
tcaggaacca caagtgccg aacgttgtgt atttcacacg tatttcacga gtactgggag 120  
ttgtggacgg attttacaat aagtatgttc ggtatgcgtg gcgctagtat gaagataagg 180  
gtgtgatgca tgtcttgcta agtcaatgcg gtcaaggat gactggtaga agtatccatg 240  
aagctataat tcatatgata tgagac 266

<210> 1868  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-036-Q1-E1-F2  
  
<400> 1868

acgcgtccag gttacttcat tgaattctga aggcgtccgt aacttacagc agtctttgtt 60  
taccatggag agcgagacag tgaaaaatga taagctagct aaactacaaa gaatggctgt 120  
gaatgttcga actggtggga aaggtagcgt tcgaaggaag aagaaggcag ttcacaaggg 180  
cacaccgacg gatgataaac gactgcaaag cactttgaag cggcttggtt taaaccaa 240  
acctggaatc gaggaggtca atattttcaa agacaacggg caggatgatca actttactac 300  
ccccaaagt caagcagcca tcggagcaaa cacttatgtg gtatcaggcc aaggggaaac 360  
aaagtcnctt caggagctgc ttccaaatgt actcaatcag ttgggttcgg acaatctagc 420  
tcaaatgcgc tc 432

<210> 1869  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-036-Q1-E1-F3  
  
 <400> 1869  
  
 gaacggtcct tccaacggca attcaaaaat tggtttcaat gaacgttcct cgcgcccaaa 60  
 aggtataaaa ccttacaaag gaattccctt tggacgggaa cccaatgaat ttgccttttg 120  
 ttacaaaact tggcagtcgt tcttctcgga aaacatcgaa tatgacgaat aatagtactg 180  
 gtggagacta tggcggtcgc cgcattcatta ttactgcaac tggaaagaga cgaggtgggc 240  
 gatggagacg taaaaacttt cctgtgaata atgaacgcac gatggattaa gaagaagaca 300  
 cacaagtagt tgataacatt ttctttataa aacttttctt tgttgaata aaaaaaaagt 360  
 tgcagagaaa aaaaaaaaaa aaaaaaaaag aaaaaaaga aaaa 404

<210> 1870  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-036-Q1-E1-F5  
  
 <400> 1870  
  
 actaatat tat tggatgaga atcgagagcc atgtaaaggt cgcacaaagt cggatactat 60  
 tgagaaagca ttaggcataa aaagaggcca agtttttctg tggagcgatg tttattggga 120  
 gcgaatcacg gagttgggac tttttgatta tgttcgtgca gagttggagc ttcgtgatga 180  
 ttcttcagta caagttgttc ttcgtgtgag tgaacgtcct tatagtcgtt tggaacctgg 240  
 aataggatat ggctcaggtg aattatttgg cgaattgtca tttcaagata acaacttatt 300  
 tggacgcaat cagtatctcc aatttgactt tcagaagaga caatttcaac attcagtatt 360  
 atcttttagag tttgaggatc ctcgtgtagg acagttatgt gggtatcgtc tcaaagtata 420  
 tcgtga 426

<210> 1871  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-036-Q1-E1-F6

<400> 1871

agctgggtgg agtagcgaag caagagaagg gaagtaaaag gtaagaaaga ggaaagggtt 60  
acgagagaag gaagtagaaa gaagagagtg taaggcggcg tcataataga aatccgaaag 120  
gagtagaaga aaagagagag aagaaagaaa agaagagaaa agccgtactg aagaccgaca 180  
cagggtactcg aggagaaagg agacccaaat taagggtggat agtcgagagg aaaaaagccc 240  
agaagccaag ataaggtatc aaagtaaaga aagaaggaaa aggagaagaa gagagggtag 300  
gcttagaagc agcanaccag agaggaaagc gttaaagcat gaaagaaaag aaatccgaaa 360  
aagaagagaa aaaggtaaga aagaggaccg aatcagggtg agagggtanan gagcaagaag 420  
agaagagaga atg 433

<210> 1872

<211> 338

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-F7

<400> 1872

gacccacgca tccaggcaat tgcagcaatt tcggctaatt gttgtggaac aagataacat 60  
gtcgaccag aacgcagtag gctctgcaa cttgagaagg tgagactagg ggtactttat 120  
gattgtctac taagtgaat aaggagaaat acggcttcac gcagttccg tttactagt 180  
tctggtaaga gcacctcgac gaagtatttt tccgcgcgac tgtatgagcg acgatccaac 240  
cggtttgaga gtgttggttc tgtgtgcttt tgttggttca tttggctgat ttcgtttacg 300  
ggatcgctac tgcgttatgc ttcatacctt tgcgaaa 338

<210> 1873

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-G1

<400> 1873

accaagcgtc cgcgtgaggg tagttcatca tggttgagac aaaacttcaa gatggtgtta 60  
 gtgcttctct ttggactgtt cgtctcttcc tctacacagt tatttttagca ttctctgcca 120  
 ctatcattgg cttaggatga cgtaaagcag acaacatatg gaacgacagc ttattctatg 180  
 atgggaagta cattaacttt tgtgcttatt ctgcctcttc tgtttagaa ggaggggacc 240  
 atggagcgtg taaatatgtc atggcggttg cgtctataag ttgattcta gtctttttct 300  
 tgtggctttt tacatttgta gatgcgttgt atcctattct taccaagttt tggtttattg 360  
 aattgggtat caacgtgttt caaacaatg 389

<210> 1874  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-G10  
 <400> 1874

gccaacgcgt ccgagtcaat accgtcgttg ttcttattgc tactttagt ggcagaatat 60  
 ccatctgttg gtggtgccgg tggttgtcgt cctcgtctgc tggatgaagag tttcttcgcc 120  
 gggcttttat tctcgtcgtc atcgatagca agatatttgg aaacgagttc ttgtacattt 180  
 gggcttatcc agtggctcgt attttctttt gtcgtgttgg agtaggcaac taccgatgat 240  
 gatgaaatag cagtcttgtc gtcggaatag gaacagttgt tgctagcggg aaccaaggaa 300  
 gcaacgcttt ttgaatgagt tggttgggtg tggttgactt gacgaccata gtcggtttcc 360  
 caaaacactc gagtgggttc ttcttgagct gctgggtgat atggctgtcc caccagttgg 420  
 ttccaagaac cacagcgt 438

<210> 1875  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-G12  
 <400> 1875

caagcctcta caatgacgtc gtactaacgc gtgtgccgaa atcggctgtg aagcgtata 60  
 gcgggaacta tagtaaaggg gatgcccttg tgggataaga tctcaacacc aaggtttcag 120



tctttatata caaatgtcct tttgaaacta atatatgata cagtcttctc attttcggtg 180  
aactatatta catgtacctc tatgatctat gcaatatgtg aaaatagtg aatataattc 240  
tttacggatc caggtatatt tattgatgta caccactatc actacacaag ttggagatat 300  
aatttatatt aatcgtgtac tactgttact acgtaatatt cgaacttaga tatgatattc 360  
gtttacttac aatataagtt tact 384

<210> 1876  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-G2  
<400> 1876

acgcgtccaa aaaatgtggt tggtcggtga aaaccatggt ggcagcttct ccttctcgca 60  
agttggaaat acaatgtgga gtattgaaaa gaacggtgaa agatatatcc gcttatcaaa 120  
aggagtttac cgagatgaag gagcaaatac aacgggcaac acccgatcaa ccatatcagc 180  
aatggcaaaa agtggttgaa gaaacggaga gaatggtatc ggactcgtat aggaggttat 240  
cggaagcggg agacagttta caaaagttgc aaacgcagat ggaaaatttg cgaggaacca 300  
aagaatggga acaagccgat gcgttggttac aagaagcaca gcagggttta tcacaaacct 360  
cgaaagttta acgaaacaaa gcaatgtatt gaaactgcgt cgacttggtc aagatgcgag 420  
catcgtaat 429

<210> 1877  
<211> 261  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-G3  
<400> 1877

taaaaccgaa gtcacccaaa atttgacttt ttttgtcaaa aacgccgatt aaaggaaggc 60  
ctgacgtacc acaattagac aaggtaggtt ttgaatgtga aatcagttt gtagccggca 120  
acggttttga cggatgatcaa cgtttgaggc accttgattt cgttggcata tacaatacaa 180  
accgatgaga gaaacggcac aaggggtttt ccgtattgtg gctggaacac cggctacttg 240

aataaaagaa agtattttgtg g

261

<210> 1878  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-G5  
  
<400> 1878

agcgaaagat ttgtctcgaa tctttcctca gcaagtccaa ggattggctg cgaaggctga 60  
cgaatatgcc agagcactgt ttacaggtgg tggcactcta ttcgaagaac taggtttcta 120  
ttatgtcggc cctgtcgatg ggcactcttt agaagacctc attccaatac tcgaaaatgt 180  
acgagatatg aatgtgaata aaccagtcct cattcatgta aaaacagaaa aaggtcgtgg 240  
ttatcctcca gcagagaaa cgtagataa gtatcatggt gttactagtt ttgacattga 300  
aactgggaag cttctgaaga aacaagagac taagtcaact ccagctcctg ccagttattc 360  
taccgtattc gcaaacacat tgattcagga agcagaagag gatcgtaaga tcgttgctat 420  
c 421

<210> 1879  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-G7  
  
<400> 1879

acccacgcgt ccgccacgc gtccgtggac ttgtccgata gcaatggctt tggattggct 60  
tccagtaatc atcatcatcc acatagtaat agtgggtggg gatgtgaaga tattcgcgat 120  
tggtggagaa aagaattttt atttctgcca tcacgtgaaa gctatattga atattataat 180  
catatttcca ggcgattgtg taatcttacc gagtcgttgt ccatttctc cttacttgtc 240  
tagatgggat aaaaaaaga tatctgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300  
aaaaaaaaa aaaaaaagaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 360  
aaaaaaaaa aaaaaggggg ggcccccta aagggt 395

<210> 1880

<211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-036-Q1-E1-G8  
  
 <400> 1880  
  
 gaccacgag tccacgtgat acagagtagg aagaaaagag aagagagcta gaaaggaggt 60  
 aaaagaagag taaaaggact agaagaggta cggaattcac gaggaaggag cgtgaaggaa 120  
 ggaggaatcc caagtaatcg aggaagaaaa agcttcggtg aaagcgtgaa cggattttgt 180  
 acacactgcc cgtcaagttc tggaagtgtg ctaggaataa gcaggagaag tagaagagag 240  
 taggaaaaga agaaaggaag tgaagacgta agacgtgata cagagtagga agaaaagaga 300  
 agagagctag aaaggaggta aaagaagagt aaaaggacta gaagaggtag ggaattcacg 360  
 aggaaggagc gtgaaggaag gaggaatccc aagtaatcga ggaagaaaaa gcttcggtga 420  
 aag 423

<210> 1881  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-036-Q1-E1-H1  
  
 <400> 1881

agatattgca gctagtggga aagcggaacg aaatgatctc caacaatggt tctcaagttt 60  
 gcacaaaatg ccaaaaagca tcaaatagtt attcccaaac gttacaaaac tcatcagtgg 120  
 atgattgttt caacttctgc gaaaactggc aatgcatctc ctgctacaca gtgctatact 180  
 tcgcacactt cctatcagaa ccttgtaaag gaagtagaaa agaaatggag cacaggaatg 240  
 cgtattgttt tgttaagttt cactgcanga atgtggactg cagtattgaa tcagaagagc 300  
 actggctatc aagagcaagc ttacattat tgtccaggag ctgactttcc acgagaatgg 360  
 gttcgacaga aatgggatg 379

<210> 1882  
 <211> 465  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-H10

<400> 1882

cacgcgtccg aaagaggaaa aatggcaagt cgaggagtag gtgggttttca gttgttttagt 60  
cgcttggttt cttcggttac tagtcgtcca attagtattc catggatata taggatacct 120  
atctcgagtt ttactacagt gacttcttta aaggctctctt ctaggggcaa catgaatata 180  
aagcttgtag ctcaagtatt caaacgtcga ctgtttctac aaagccaacc aacccccaac 240  
ccagactctg tcaagttttt acctggaaga gaagttattc ctgacggaaa cagtatcgac 300  
tttcccaatg cacaggctgc tcaaatttct cctctggcaa aaagactatt tcagatacaa 360  
ggcatatcgt cgtattttct aaggccggat ttcgtgactg taacgaagaa ggaagatggt 420  
agttgggtcag tattaagac agaaatattt gaagcaatac tggag 465

<210> 1883

<211> 450

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-036-Q1-E1-H12

<400> 1883

acgcgtacgc ctacgtgtag tgtttgcaat gtgctggaat ttatttcggc tacaattga 60  
aagatttttt ggctttttca ttggaggttg aaaactgcat atctttgata caagtgttga 120  
tttgactttt tattcgagaa tatcttatgc tttcgcgacc ggagtgtagt ttgatgcaat 180  
gtgggacgag ttggtcgtcg ttactgaaca cggaatcttt gcaagacgtg tttttggaaa 240  
agcgtacaaa tagcttgaga cagtctgacg caattcttta cgtccaatat tcacttcaaa 300  
cacttcattt tatgattcat cgcttgaagg agagaggtag ctggttgaac tttctgttga 360  
attacagtgt accgttactt tcggttttga aggcaattat cgaagacaaa caacagaatt 420  
tcccatttct gaaggaagcg agtgaaatat 450

<210> 1884

<211> 433

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-H2

<400> 1884

ccggggccgac ccacgaatcc acccaggctg gttgcctcta tgtcggacgt catggaagag 60  
aacgaaaaaa tgcaaaaaaac ggtacacata ttgattctaa caatcaaagtg tggataaaga 120  
aaattgaccc aaaaggccac gtggaacata tagattgggtc aagaaacaac aatgcagtga 180  
gagatgctgt tggagccagt tttccaggat acttagaaaa tgaagctgtg gtttggagta 240  
gcaaaagacg aaagtggata tttctccctc gacgttgggtc gttggaacct tatgatgatg 300  
aaaagaatga gtttcgaggt tggaataaga ttattatttg cgatgaagat tttttgcaca 360  
ttcgaatgtt accgttgaac atggaacttg aggaagaaaa gggcttttct agtgccaagt 420  
ttgttcctgg ctc 433

<210> 1885

<211> 328

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-H4

<400> 1885

acccacgcat ccacccacgc gtccgggttg gtcctgttt acatgccggag gcaaacctga 60  
acctcaaaag cttcagggaa tacgtgcagg tttaataccg gatataattgg ataccagcag 120  
aagttttcaa cttattgcag gtaatttcag ccgatgcaat cgcaatggca cgaaggatgg 180  
catccgatga aggtttattg gcaggaatat cttcggggagc tgcatttaac cctccatttg 240  
ctattggaaa gagaccggaa catcgagggg aacgaagatt gtgtatgatt ccaagtttcg 300  
gagaacgata tatgacaagt gcaacgct 328

<210> 1886

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-H5

<400> 1886

acccacgcgt ccgccacgc gtccgcggac gcgtggggaa aaatctcgct ggaagacatt 60

tcacctcaca ttttgtgaca atcattccat cctacacgca tttttactca ttgttggttg 120  
aaacgatatg gcagagaagt tgacagagat caaggataaa gttgccgata aaataaagtga 180  
aatgactgga aacaagtcac ctcaggacca ggcgaaggat aaagctagcg aggcagggga 240  
ccgtatgaag gatgcaggaa gtgctatgaa ggaaagtgt caaaatgcag gggacgccgt 300  
caaggataag atgtccagca tgaaggagtc tgtttccaac aaagcggaag gtgtgaaaga 360  
aggtctgcaa aagtagatac tccgagggtta tctcatttgt ttcgtcttgt ttgtgggtta 420  
at 422

<210> 1887  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-H6  
<400> 1887

ccacgcgtcc gggggcaagt tgacctctgc tttgccacct ttttttggt gtccctcatg 60  
tggtttgcct ttttaaagct tgaagactat ttccttttat gatttaggga tttctccaga 120  
gggttttgta ctagtattat tcagtccttc gtggtgaatg aatgactcct ttgacaacaa 180  
ggttgtcatt ttcccgccat ctccacagct tcaaccgcca atttgtgtcc gcatatatac 240  
atatatttgt acagactcgt ggtgtagaaa gaagagtgc agtggttgaa aagtaacagc 300  
agagggttag tatacctgta gaggaagcac ttgaaaagg ggtcacgtcc ttttacatgt 360  
ctacaagtat ttttttgctt gtagaaattg caagtttagt gtactcgaca atgtttc 417

<210> 1888  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-H8  
<400> 1888

acgcatccgc ccacgcgtcc gggttggttg gggtagcat gccgccgcaa gtagaaacaa 60  
gtacaccttc tggatttgca gtaggcctga ataaaggaca cgccgttacg aaaaggaagt 120  
tttcaaccaa aggactgaaa agggagaaaa aacacgccaa gtttgtacga gaaatcatcc 180

gtgaagtttg tgggtttgct ccctatgaga agcgaatcat agagttgttg agagttggga 240  
aagataaacg tgcgctcaaa tatgcgaaga agaggtagg aacgcacgtg agagcaaaga 300  
agaagagaga tgagatggcc agcgctttac gtcgtagtgc acggaataa aaatagaaaa 360  
tattgggctg t 371

<210> 1889  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-037-Q1-E1-A1  
<400> 1889

acggacgcgt gggcggacgc gtgggaaaaa aaaaaaaaaa aaaaagaaaa aaccaaaaaa 60  
aaaataaaaa acagacacc ttaactaaga ccaaccaatt tgctaactac ccaatctagg 120  
gggaaccttt tgacattaat ttacaaaaat ggtgtctgca acttaattta acgaatttca 180  
tttgggaaat tcaaaatttg gcaaaaaagt ttttgatggt acctgccgga caatcctaag 240  
catgatggat aggctggaaa tgcgctgga gaagatatcg tgaagaatga gccatccata 300  
tattatagaa atatatatat atatatatat attggtgaca tatataaagc aatagacaca 360  
agttgggtat tatttcanaa aaataaaacc gccaccacgc cttgcaat 408

<210> 1890  
<211> 256  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-037-Q1-E1-A11  
<400> 1890

gtgatgtcag aattgttatg gcatctcgtg aaatgccaca acgcattcca aataagaaga 60  
aaaggagtca cgctttcaac agagaaagga aatttaaagg gtgtcagtac ttttaaatat 120  
tcgggtcatg ctcaaccgaa ggccgtcgac attgctccag ctacagaaac ttttggtatt 180  
ttgtactcga agaaacgtac caagaaagat gctgctcgaa aaccttcgac ggaatttcat 240  
actgatgtcg tgaaaa 256

<210> 1891  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-037-Q1-E1-A2

<400> 1891  
  
 aatcattgtc atcatgaaag ctgctgtctt tgcattcttt gtcttagcac tatgcgcggt 60  
 tgctattcaa gcttctcttc tagaggacac tttgggtgcc tttatgcggg gtggttatca 120  
 atcgcaaagc caagcaccaa aacctagctg ttgcaagttg agctgtcatt atacccaaat 180  
 ttgtgaacaa gttatcgctc aaactcaaca ggctcgccan actcagcaag tttaccanac 240  
 acaacaagta cagcaaacac aacaagtttc gtcagcatac ggacgcaatg aggtatccan 300  
 anggggatat ggccaacagt ctgtagcccc agctcctgca ccttcctgtg tcagtgttcc 360  
 agtcaagtgc tgtattgagt gctcgtcttg c 391

<210> 1892  
 <211> 227  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-A3

<400> 1892  
  
 acccacacgt ccggttatac ccaaaaatca gggcaatgca attcataatc caagttgaaa 60  
 caaccacagg aaaacttgcg tctactcaag gagacaattt gcgagcattg aaactcgggc 120  
 agaggttctt tgaaacaccg aacagataaa atcagtgaaa acttgcagaa ccatcaagcg 180  
 cgtgtcatga acgcgtaagt aattgactgc ttacgatatg tcgtcga 227

<210> 1893  
 <211> 346  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-A4

<400> 1893  
  
 gtcaaattac ggtcgagcac gcgtccgacc acacgtccgc ccacgcgtcc gcggacgcgt 60



gggcggcaca ggaagaaacg gctattcctc ctccaccatt cttgcgcttt ctctctcaat 120  
 gcaaccacaa gataaaggtt tccccgaaaa ttgtcaactt gacagagtac ctctacaaga 180  
 aaagaatcaa tccgttcctc accttgctcc aaccgacgaa catacctcga aacatacatc 240  
 gacttggttat cctccttctc tacaaagaaa cacactttac caagtatacg aaatgtatgc 300  
 atttcgtggt ggtggcgtag ggtttcgaaa aaccggaatg aaagta 346

<210> 1894  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-037-Q1-E1-A5  
 <400> 1894

cgtccagtta tacciaacaa gtattgcaag ggacgagaaa aggggatata tcggtaggac 60  
 gatatatatc ggatacttta tcgatgatac ctcaattgga tagtacaagt atagagaaac 120  
 tgtttgagaga tcagttgaga gatgtgttga tgatacttta tttagacaag ttgatttggg 180  
 caaatgcaaa gttggcagaa aagtttttga tggtagctgc cggagaatcc taagcatgat 240  
 ggataggctg gaaatgcgcg tggagaagat atcgtgaaga atgagccatc catatattat 300  
 agaaatatat atatatatat atatattggt gacatatata aagcaataga cacaagttgg 360  
 gtattatttc anaaaanaaa a 381

<210> 1895  
 <211> 205  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-A7  
 <400> 1895

acccacacgt ccaaattcat tccatccttc cgaagacgat tggatatttg ccaatgatgc 60  
 actactttat ggtgggtttac gagaagaatg gccatcgaat agtccatggt tggaatggaa 120  
 tcgtccacca caacaacaac aacttgattc cgtataacca agaaaagata atcacaagga 180  
 agatatttga gaagaagttt ttccc 205

<210> 1896  
 <211> 372  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-B1  
  
 <400> 1896  
  
 cgtccaatgc aatatccaat gaagagagcc ttttccaaag tatectttcc aaaatataac 60  
 aaacctgaga tacgtacaga aatacctgga cccagatcaa aacaactatt aagtgagatg 120  
 aacgtgcttc aagaaacaag gactataaac ttttttatga acacagccaa gagtcaggga 180  
 acatatgcag tggatgccga tggaaatgta atattggacg ttttttgtca cattgcctct 240  
 ttacctttgg gttacaatca tcctgcaatg gcggaagctg cttccaaacc tgagtggcta 300  
 ccgtttctct tacaagaca tgcgctaggt gtacaaccac cacgaagagt ggccaagaga 360  
 gctaagagaa ac 372

<210> 1897  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-B11  
  
 <400> 1897  
  
 tgcaactctt tttggtatcg ctcatatatg atgccttttc agtagcgtga agaccattta 60  
 atctataggg atttatcaag ttctgcagag atatctcgta cgagtccttt tccgtgtttc 120  
 gtaaagggtg aaaggctcct ttcacaacac ctttgtcatg atcccgccaa tctccacatc 180  
 ttcaattact aatttgtgcg cgtatgtaca agtatatctg ttcagacacg tgggtgtagac 240  
 agaacattgc aatggttgat aagtaattgc agagtactaa tgtacttgta cacgaaacac 300  
 ttgacaatcg gtcacgtcat tgtacatgac aacctacaat agcagtcttt tgcacg 356

<210> 1898  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-B3  
  
 <400> 1898

cgtccgacca caagtccgcc cacgcgtccg ctgacgcgtg ggctttgtgg ttatatattgaa 60  
 caagttccaa ctttgatacc actttttgca accgctactg agttcctttt atacaactta 120  
 accttttctaa cgaacaaagg aatgaaacta gttgaatatg tgaattttct gacttggggg 180  
 ataagatgga cgttacaacg aaacttaacc aactcacaaa ggaaacagca tttcctctta 240  
 attctaacta cgccaacact gtgtcagtag ccggcgggaa gacgagtttg gaagaaaagc 300  
 gtcttgtgct attcaacttg agagaaagaa acaaactgta cagttagata atcgagaaca 360  
 gaaggttcct tcgacaacga tggcgacaaa atcgcaatag gccactcaaa tgt 413

<210> 1899  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-037-Q1-E1-B7

<400> 1899

agttgcaact tttgtatctc atcgtttggg ctgtaaatgt tgctaattgga acagggttaag 60  
 caacctaaca ttatatatgt tgaaaactaa atgaacgaaa agaagctggg gtgagcatgg 120  
 aagtgccac tattagtgtc gccaaacatg actctgaaga tagccacgaa gaagtgagga 180  
 agcggttgag tagagtaagc gtcaccctg ttcccgatcc tacttctcta ggattatctg 240  
 gttttagttg cacaactttc attcttagcg taatgaatgc caaattattg ccagcgagga 300  
 ttgtaccagg aattgtaggg cctgcctttt tctatggtgg aacgggtacaa atgttggcgg 360  
 gccttttatg ttttgtcact cgtaacatgt ttggattggg ggcatttact tcatttggag 420  
 cttttt 426

<210> 1900  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-037-Q1-E1-C3

<400> 1900

cgtccatttt gattgtggtg aaaccgtcgt gaaaccaagt tggcttcgat gaatgatgaa 60

gctctaagta gttgtattca acggttgggg aagatattca aggaactaag tgacgtgttt 120  
 ttacgggttcg cacaaaattt gcccacaaca catgcttctt cgcaagcgtc tcgacagcaa 180  
 ccgtctaattg ttcgacaaga tgttttttca caaccatctc tacagcaacc tccaacttct 240  
 aatgtttccac aagatgcttc attgaaatcg cctcgacagc aacctccatc ttctaattgct 300  
 caacanaatg cttcttcgca accatctcta cagcagtcac cagcctcgat tgetcaacaa 360  
 gatggttctt ctcaagcgtc acgacagcaa c 391

<210> 1901  
 <211> 437  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-037-Q1-E1-C4

<400> 1901  
 gggccgaggc gtgggcttat tggaattgaa aggagggctg acgagctcag cttgaagaac 60  
 aaagaacttg cgtgggggttg gacgttattt atgaacttgg actctattga cacaggaatt 120  
 aatgctcctt ttgaccggtt tgcagacgcc tcacgtggag aggacgcagc agtaacccaa 180  
 aatatagtgc atattcgctt gcaacaaaga aacggccgca agtgcttgac gacgattcaa 240  
 aggcttgaca canaattgga tttgaataaa attacaaagg ccttcaaaaa agagttttgt 300  
 ttcaacgggt gtgtcgtaaa cgacccaaaa ctgggaagag tcatccaact gcaaagagac 360  
 caagaggata nagtcaaaaa gtttctagtt caagagaaat tagctganaa agacctgata 420  
 aaggtgcacg gtatatg 437

<210> 1902  
 <211> 250  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-037-Q1-E1-C5

<400> 1902  
 aggttgacag ggaattgtgc gctcttcgtg ataataagcc ggaagaagc aaacgacaga 60  
 gaataagaag ttacatccat aacctcctta tcttcagggg agagtgtgaa cagtgggtca 120  
 tgagtttcaa ggtcaagatt acactatggg tatggaaata aaatcaggcg gtattaaaga 180

agttgaggag tatcccgctcc aagtaaatgg ttgactgaga cctgaggaaa cgttgatggt 240  
 acatgacaga 250

<210> 1903  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-C6  
 <400> 1903

agttgtgggc atggcagatt tggcgcgtgc acattacccg cgtaaagtct tgtgctatgc 60  
 attccacttt cttctagtag caaaaacaac gagtttaaaa actcaagtct cgataaagcc 120  
 ttctcatgta tgccttcgat acccaaaggt caactctttt caaaatctca agtttctggt 180  
 gtgttctcca agagaaaacg ttcgcaaacc ttccacctgg cttattcata tgtccaacga 240  
 tggctataaa ggaaagccac tgctcgatac atcttttcag ttgtacaaaa aaatcgcaag 300  
 ttctgcgact taatggtacc tccaaggaga tttggcggct tctcttcaaa caatatatcg 360  
 gcgtgccttg tttcagggag ttagttcaca gagcatttcg tgggcgct 408

<210> 1904  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-C7  
 <400> 1904

gtccagatgt ggtcatggca gatttggccg ctgcacatta cccgcgtaaa gtcttgtgct 60  
 atgcattcca ctttcttcta gtaccaaata caacgagttt aaggactcaa gtcgcgataa 120  
 agccttctca tgtatgcctt cgatacccat aggtcatctc ttttcaaaat ctcaagtttc 180  
 tgggtgtgtt tccaagagaa aacgttcgca aaccttcac ctggcttatt catatgtcca 240  
 acgatggcta taaaggaaag ccaactgctc atacatcttt tcagttgtac aagcaaatac 300  
 caagttctgc gactttattg tatectctat ggacgttggc tgcttctcat ctagcaatat 360  
 atcggcctgc cttgtttcaa tgagttagtt cac 393

<210> 1905  
 <211> 339  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-C9  
  
 <400> 1905  
  
 gcgtccatgg gaatccgcgc aacttggcgc catgttacgt tccaatccaa ctgcgttcct 60  
 ggtatgggtg actgtagcta gttccgctgg ttatgtaaag ctgcacagag atgtaaaata 120  
 tgcaggaaat atacttactt cgagtataca agagtgggtcc gatgaggtaa cccaaactac 180  
 caaagaactg gatagtaaag tccttttttt agaaaaggag ttgaaccgca ttagagaact 240  
 ggcaaccgtc gaaaaggatc caagttctcc ttcgagtggg caaagtaatc aataacgcac 300  
 cgctactagt ccttatttct gtcgagtatg ttgcctgggt 339

<210> 1906  
 <211> 268  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-D12  
  
 <400> 1906  
  
 catgggaata ttatttggca gtttgggtgaa tgcattctgca acgaaccac tttgatcca 60  
 tcagttattt ggatacacga tattagggtt tgcgttaaca ccaggcagta cgactgtttg 120  
 cattgatgat gagttttttg ctaccgtttt catactatat gacgaaacaa gacgtagaag 180  
 ataaactttc agagacagtt agacgagtta tgagagaaaa gatggaacgt cctataactg 240  
 gtaaattggac tactaatgaa tcatatga 268

<210> 1907  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-D6  
  
 <400> 1907  
  
 aaaagacccc ataattcttg actagatagg tttagggagg agagagaatc atgaagtaca 60  
 ggaggtgggg taagagatga aagaccactg catgaggata atgaatctaa ctgagtaagg 120

aaaataagct taagctagtt tggctgggga agtaaagcct aagaaagagt aaattacgca 180  
 agcaaaggca tgagagaagt ataatagcag aagcatgctt gaagaaaaag aaagagattt 240  
 cagaaaggga agaaaagtca gctatagaga acaggtgaac gagaactcag aaagaggaga 300  
 gcaccgaacg atcgaagaag aaactttggg ggtaacaggt taatgtggtg ttagagaacg 360  
 tatcaagcac cagcattgac aactcgatgt cgggtcatca cat 403

<210> 1908  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-D8  
 <400> 1908

aagagagatg gggatatgct cagcaaacc aacaacagca acagtgccaa caagtatgta 60  
 aacagtatgc atactatcag agtccagtct gcacttccgt aaccacacag agcccatact 120  
 ggacccaatg ctogaagact gtgcaaacct ttgtcccaag ccagtgcagt acttataccc 180  
 aatctcctac atggacctat tgcagcacct acaccaccac tagcgtacca tctcaatgca 240  
 gcaaggccgt gactacctat actcaaacct gctgtgctta tgcccaacaa acttcctatg 300  
 cagtcagtac cgagcaatat gtccaggaaa ctgtatctgc tcaatatact tcttactacg 360  
 gcgaatcatc ctccagctat tattaccgag cagctgctcc tcagagatgg tatgaggaac 420  
 aatgcaactc atac 434

<210> 1909  
 <211> 197  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-E11  
 <400> 1909

gtcgtgacat ttgccaagaa gggagattcg gatttgggag tacaagtaat tcctaactag 60  
 ttttctttca gtgtggattg tgatatagtg catgatgttt ctgaaaaatg tcaagaggta 120  
 tgaagataga aaaggcaatc atgggttaaaa gtaaagtga tggggaggcg tttatcagga 180  
 agcttgtcta gtcgaac 197

<210> 1910  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-E2  
  
 <400> 1910

```

ggtcagaatt acgggagc acgcgtccag gctaaaatgg tggaggagac agtctgatgg 60
aatatcgata acggaagaac agaacttctt tcatgggttc tttctagaca cgcttctttc 120
atgtggacag gatagtgtgt ttatgcggac acgtctgttt cctttgggcg tcctttttgt 180
tacacgacac ttctcatctt gtagcacact ctactagatt tcctagaaat atataagaac 240
cagttcgagt tggtattatt tatagccctc gttatgttgg atgcaatact gttcgccaag 300
cctttattca atacaaagac tctcaatatt ctggattttc aagtgcactt ggctgattta 360
tagcatgcca ctttttaaac gcgggtagct catccaatgt cttggcaact ctcac 415
  
```

<210> 1911  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-037-Q1-E1-E3  
  
 <400> 1911

```

gcgtccattg aaaatcatgg tagacactaa ccttaaggac ggtgctagtg ctgctctttg 60
gacttgccgc ctatttctct atacagttgt gttagcattt tcagcaacaa taattggact 120
tgatggaagg aacgcagata acatatggaa cgatgcccta tattatcatg gaaaagtgg 180
gaacttttgc gcatattcgg ctctgtctgt tttgaagggt ggcgaccatg gcgcatgtaa 240
atatgtgatg gctttggctt ctatcagctt gattttagtt ttctttcttt ggttggcctc 300
ctttgtcgac gcatgtatc caattcttac aaagtccgg gtttgtggag tttggtatca 360
acatatccc ttactatgtg gtggttggtt ggtgcaattg tggtgactgc aaa 413
  
```

<210> 1912  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-037-Q1-E1-E4

<400> 1912

gggccgagcc acgcgtccac ccaaacgtcc gcactggtag atcatctttg agagagaatg 60  
tcctttcctt tcgtttccac atagaaaagt cacggaaaaa cattttgaag cagacctgcc 120  
gaattttcca agagcactag tctatggtga gacaagttaa gcatcctttg tggcgtcctt 180  
gctatcgatg atgagttgct ttgacctgca actttcgttc gcctcaaaac gcgagacaga 240  
gcagactttt ggtccagaac aggaaacgac agtcattcct tatgaaatat gttcaaata 300  
tgcgtcaaga cactctgtaa cttggcgact cgtctaggcc cactgtatgt tgccacaaga 360  
gtgttttacg agatgaatgg gaacttggtc tattca 396

<210> 1913

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-037-Q1-E1-E5

<400> 1913

acggacgcgt gggcggacgc gtggcgac gcgtggggca gaagccatct tgcaattgta 60  
tatgatgacg tatcgaagcc tgaaggagaa cgcaagttaa tgggtatcgt tactttggaa 120  
gacatcattg aagaaattct tcaggaaatt gttgatgaga ccgatgttta tatggacatg 180  
aagacaaaga aacctgttct ctttcggggt ccagatggtc gcctacatcg cagagctttt 240  
atcggaccga aaaagccaca tactcaaata acaattagag agattgacat tggaacttta 300  
aagcatagtt cgagcgaccc aaatctatcc gttaggagaa aaaaggcggg agaaaacttc 360  
aataagcaag tgatgcgcgg cgatatcgat gaat 394

<210> 1914

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-037-Q1-E1-E8

<400> 1914

acaagtatac gcttttggttt aggtcgattt acaactgaaa aggaagtgga ctttactggt 60  
gagttggcaa agagacatgt tgcacgttta cgagaaatga gtcctttatg ggaaatggta 120  
caagaaggaa tagacttgaa gagcattcag tggacacaag agcattgaat gggaagcgag 180  
atgacaagtt ctatcagaag cagcagcagc agcagatgtg gttttgcctt ctattcttgt 240  
aggtatggca agaataaact gcaacagaca cttgtttggt gttacaaaag caacttgcaa 300  
tcatcaaaaa aaaaaacaaa aaataaaaata aaaaataaaa aaacaatcaa aaaaaataaa 360  
aaactaatat tcatcaaaaa ctatataana taactaatat aaaaaaaaaag ggggggcccc 420

<210> 1915  
<211> 434  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-037-Q1-E1-E9  
<400> 1915

acgggtccac ccacgcgtcc gccacgcgt ccgcccacgc gtccggacaa gtggttgctg 60  
gaattcgcaa ctacttttcc aaggatgaat tgttgaatcg gacggttatc gttgcgtgta 120  
atttgcaacc ggtggttttg gcaggtgtcg aaagtcaggg aatgatattg accgctgaaa 180  
agaaaggcaa ggtgcattct ttatcctgtg aaaagtggga tgaagagaag aagaaactag 240  
aagaggctcc tgcactaggt acgttggtgg aaatagatgg cggcgatgta tccaaagcat 300  
cgtttccgat attggatagg aaaggtttcc aagacgcgag taaatggttg aaaattgacg 360  
gacaaggaca tgtagtattc cataagaagc acaagttgat ggccaaaaat tgcgtagttc 420  
acggcaacgg tgcc 434

<210> 1916  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-037-Q1-E1-F10  
<400> 1916

cgtccacgag aaaaggaagt agaaagaaga gagtgtaagg cggcgtcata atagaaatcc 60  
gaaaggagta gaagaaaaga gagagaagaa agaaaagaag agaaaagccg tactgaagac 120

cgacacaggt actcgaggag aaaggagacc caaattaagg tgagagaatg gacgataagg 180  
aactaggcaa aaggatatgg tatctgcggt agaacatatg aaagaagcag caccgactgt 240  
ttagcanaaa cacagcactc tgcagaaaag agaaaatgta aagtatagag tgtgcggcct 300  
gccaaatagt agagaagaaa tcgatganag tgaaagcgag taaaagatg 349

<210> 1917  
<211> 326  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-037-Q1-E1-F11  
<400> 1917

gcgtccagaa taattcggca gaggcgctct tcggcgtaga acctaacaag gaagaactga 60  
aaaaagtatt gcaagtaaac gcaataactt aagcaacata ttttgctatt attcgtgcta 120  
aaccttttgt tatcgatgta gtaaaggcta ttttccagaa agagtagaag gcttgagttt 180  
tggttttgtt ggcttgtatt cttggaatgt taccaactga agaatcattt ggaggctaaa 240  
tatgttgtga gtgttttctg gtgtcctttg tgttgacagt ttgttttttt tgaaaaacta 300  
aaaatatgat acaaagtgca ccaaca 326

<210> 1918  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-037-Q1-E1-F4  
<400> 1918

gcgtccacga gagacgagaa ctccagaaat tggagacaag ttttcatctc gacatggaca 60  
aaaaggagtt tgtggtttga ttgttcctca agaagatatg ccattcaatg aacaaggaat 120  
atgtccagat attattatga atcctcatgg atttccttct agaatgactg taggcaaact 180  
attggaattg atggctgcca aatctggagt attgagtgga gaattaaagg atggtacagc 240  
ctttggtggc gatcctctgg aagactgtgc atctatgctc gttcaacatg gcttttctta 300  
tacaggaaaa gatattttat attcaggaat gacaggagag ccattacaag cttatgttat 360  
tatgggtccc atttattatc agaaactaaa gcatatggta aaagataaaa tgcacgccag 420

agcc

424

<210> 1919  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-037-Q1-E1-F5  
  
<400> 1919

agagagttcc agttggatgt ttaaagaaaa gggacaccgg aaaatcagaa acaagttctg 60  
taggcgaaac agaagttgtc tcatccaacg acagagaagt ttgcctcaa agcaccgtgt 120  
tacaaagaga gagcggagcg gtgcaaaggc aaaaaatcaa aaacaaacaa aacagcccca 180  
gcgtcacata cgacacatcc tcagacaccg aaattcttaa ctgaggaacg agcacttcgt 240  
tatcgagaac gacttgataa gctccgagaa caatccaaac cgttcatcga acctaaaact 300  
ccgaaaaaat atgggcttgc ttggaaaccg ataccaactc aggctacaac accacacttc 360  
cgttcagact ccaggctccg tcaactgtga gaaaaggcga tccttgaacg taacaaacag 420  
agtttttg 427

<210> 1920  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-037-Q1-E1-F7  
  
<400> 1920

acttgcaact cataaaggca ctcgaaagct tgtcccttcc tgtgaaacaa atattattac 60  
agtctgaaaa caaggaagaa cagcttgaat cagaagatga actagcagaa cgtttgaat 120  
ggttattctt agatagttag atagctgata tgctaaggca cctgatacag agagtccatg 180  
ataacaaaat agtacctcta cgatataagc actctactag aaagaagtcg gatgaaaaat 240  
caagtggat ttgctccagt ggaaaggaag atttatcaag tcaaacgaag caagtcgaaa 300  
agagacaaac tctattgctt ctatttcaag aacgagtaca acaacttgag aagaag 356

<210> 1921  
<211> 337

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-G1  
 <400> 1921  
 gcgtccacgg acacgtgggc ggacgcgtgg gatctacgtt tcttttccaa ccagcatatt 60  
 caataggagc ttcttttttt ggatcgaaga aataagagga ctgttggaac acctcttata 120  
 tgggtactttt ctccaacttg atgaaacttc caagcatcaa tggcagctaa cacgatattg 180  
 gtattgtttt caaaaaactt tgccgtctgg atatagtcag gagcaaactg ttgacaatga 240  
 ggacaccaag gagcatagaa tttaactagt acatccttgt cgggtattcat gataaaagaa 300  
 gtaaaattgg aagaaaaaaa aaaaaaggac ccgccccg 337

<210> 1922  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-037-Q1-E1-G10  
 <400> 1922  
 cgtccaaact aaattgacat gcaacanagt aaccttcgag tagtccaatc ttctttggtg 60  
 gcaagctttg tcctcattct aagtataatc tgtgccattc atgcagtaac agccgatgaa 120  
 ataacaagtt tcgagagagg ataccaaaca gttgcaccaa ctcagacgca gcaatgtcaa 180  
 aagatttggtg tcaccgccac acaaactcaa gttcaaagtt gtatttatac tcagacacag 240  
 gtcgcgttca tgtctcaatg tgtcacagca ttgccaaacta cctgctataa atacgtaaca 300  
 caatataagc acgtgtgctg tgagcaagaa tacgagcaac agaattatca acagc 355

<210> 1923  
 <211> 335  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-037-Q1-E1-G4  
 <400> 1923  
 aatggttaat ttaaaaggac tccaaggaaa ttgggttcgga ggaacgggtca aatagaaccc 60

gcaatttaac ctatcgatat aaggcagttt tgcaagaaaa tttggccgat cagtttcaaa 120  
gtttttccaa gtttaatgaa gattatgttg cgcgcccaatt gaaagaaagg gaatgtagtt 180  
atttgtcata atgatataaa cgttggaaat ttgtaaaaaa acaccacatc tttacctgaa 240  
aacctgcata attggaattt gaaggcacgt tgtagcagcg aataatagtt gcgatagaga 300  
gattgaaaag aggttttaaag taaaaaaaaag ggggg 335

<210> 1924  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-037-Q1-E1-G7  
<400> 1924

acccacgcgt ccgccacgc gtccgcggac gcgtgggatt ctttgtgctt ggacaatgg 60  
tgcaaagact gctctgagtt gcctctttct ctctttcctt atcgtgccg cagttgcagc 120  
cgacgtagtt tcagaggaga gatggggata tgctcagcaa acccaacaac agcaacagt 180  
ccaacaagta tgtaaacagt atgcatacta tcagagtcca gtctgcactt ccgtaaccac 240  
acagagccca tactggaccc aatgctcgaa gactgtgcaa acctttgtcc caagccagt 300  
cagtacttat acccaatctc ctacatggac ctattgcagc acctacacca ccactagcgt 360  
accatctcaa tgcagcaagg ccgtgactac ctatactc 398

<210> 1925  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-037-Q1-E1-H10  
<400> 1925

ttagtaacgt tatctcctgc agctgaccgt atagttggcc taggaaacaa gaaagcttta 60  
tgtttgcaaa gtaaaaataa tagaacaagt ttaaaaaggc caatttcgtc ttctagtcaa 120  
cttttgcgaa tgactggagc tacttcctct gcttccgatg acagtgttcc agatatggga 180  
aagagaatgt tcttaaacta tgtcttgctt ggtggtgctt ccattccaat cttatctatg 240  
ttgggtgggt atgcatactt tttctatcca ccctctcgtg gtgggttcggg tacaggtact 300

gttgcgagag acgtgttcgg acgagaaata aagaaaaagg aattttttga aacgaagaaa 360  
ccaggcacgc atgagtttgt acaaggacct aaagg 395

<210> 1926  
<211> 343  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-037-Q1-E1-H12  
  
<400> 1926

cgtccagtgg gcggactctt gggcggactc gtgggctttc gttgaaatta gaagtactcc 60  
tgcagtgata caaatgctac acggaagtgg acgggagcct ggttactttg gcgttgctcc 120  
tttgggcttg ggaaataacc cgcaactcta caagcgattt caattgtccg agttgtcgaa 180  
cggtcgattg gcaatgatat ctctggagg actcaatcac cagtcatttc ttactcatat 240  
aggtgctatt caacagttgc atcatcatat atggtttcca gaaaatcgtg gtttgtgaca 300  
aggaatagtt gtggatgtgg gacactagaa gaatattttt ggc 343

<210> 1927  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-037-Q1-E1-H2  
  
<400> 1927

gcgtccacgg aaacgtgggc ggacgcgtgg gcggacgcgt ggggttatta gcaccattta 60  
cggtaattgg attggctatt gcaggcgcgt ccacctatgt caaacacaag acaggacaag 120  
ttgtagctta cacgatagga atggttatct atgatctgtt ttggggaagt gctttagggtg 180  
cagtgcctat tgcagtcaat tctgaagtct atccacaata tttgcgctcc aacggtatga 240  
gcattgcggt gatagccact tttgttgaa cctttacgac gacatatata ttttcgagaa 300  
tggtgcattc tatgacaaag ttgggtacct tgcttggttt ctatggtgga gttacttttc 360  
ttggttgggc tccaggtatt ttctttatgc cagatacana ggatcttact ttggaacana 420  
tcagacaagt ctt 433

<210> 1928  
 <211> 313  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-037-Q1-E1-H6

<400> 1928

acccacacgt ccagatagag atgtggataa tgtggggaat aatgagtgtg agtaaggaga 60  
 taggagtaat gatgagtata agtatgatat taacggtagt gtatacgata tggatgtata 120  
 accgagtata taagggaata aggaaggagt atataaagaa ggagatggac ataagtagga 180  
 gggagtataa cagtataagt ccgttagtgg taataatgat aataatggga gtgaagccaa 240  
 gtatatggag tgaagtatgg taagtgtgta cataataggg atgagcctag taatgatgaa 300  
 aggccaatca aag 313

<210> 1929  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-037-Q1-E1-H7

<400> 1929

agaataagtt ttggcgccaa cctggacttt aaatatgctg caaaacttgt ccgtggtgct 60  
 tatatggtgt ttgaacgtcg agtggcagct gagaaagggt atgcttcacc agtttttgac 120  
 cgtatagagg agacacacaa gtgttataat aatattgcag ctagaatgat caaccagggt 180  
 agtcacaaca gtgcctccgt aatgtttgca acgcacaact tggattctat ggagagagca 240  
 gctactgaaa tggctgaaaa acagctgcac gctagcaatc ctaacgttta tttcgctcaa 300  
 ttgtatggaa tgggagattc tatgacaatg gccttagcga aggaagggtta taacacttgc 360  
 aaatacgttc caattcggac tgtacaggaa gtgatgcctt atttaactcg tcgtattgaa 420  
 gaaaat 426

<210> 1930  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-037-Q1-E1-H8

<400> 1930

acacgtcaac gtatagctgc tgttttcatt gcagctttgt cccaaagttt accaagtcaa 60  
aacggcttca ggttgataga tccactaggc attctacttt acttgtagct tctacccaaa 120  
ctgctttctaa tccaatgacg aaagtgccga gaaaccctaa tttggcaaag ttggaagcag 180  
gttatttggt ccttgaaata gccagaagaa gaagtgttta tttggaaagt catcctgatg 240  
cgaatatcat cagtcttggc attggcgaca caacgcagcc tattcctgcc cacgtcgcgc 300  
aaaagatggc tgagaaagct cttgcccttg cgaccctga agggatttca ggatatggac 360  
ctgatttaag ggaagcagaa cttcgcaaaa aaatatctca acg 403

<210> 1931

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-A1

<400> 1931

gaagaagcct tccgcggcgc gtgggtcggc ccgggttggt ggggacgcgt cccgtttggc 60  
tttgtgtggt atttgaatgg cgaccaagag aataacccaa gatttgcaag acttgggtag 120  
agacccccct tctaactgta gtgcggggcc cgtacgggac gacctcttcc actggcaagc 180  
tactatcatg ggccctctg actcgccata tgctgggtgga gtgtttttcc tcaatatcca 240  
ttttccaacc gactatccgt ttataccttt ttttgtgcaa tttaccactc gtatatatca 300  
cccgaatatt aactccaatg gaagtatctg cttggatatt cttcgcgacc aatggagtcc 360  
agcactgact atctctaaa 379

<210> 1932

<211> 403

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-A10

<400> 1932

gtccgaaaga aaaaaatttc tctgaatagt cttcattcca tgtttcaaca aatacatact 60

gaagttgcta ggtttaccca aaataagtac caagtcactc atttggcaaa cgatgtatta 120  
 ttgaactacg gactatcgtc ttatgatgga aagaatgaaa atactcaagt agagcctggt 180  
 atggataccc attcagttac tctcaaagcc ctcgccaaat tgcaagataa ggtttatact 240  
 ttgcaagatg cgttggcaca atcccaagaa gaagcaaagc gttataaaaa gtctctatgt 300  
 gctttaagag aagaacatga aatgactatt caaaggatg gcaaagagtt tcagttgctt 360  
 tttcaagaat tgcacgatt aagacataac aacaagaaga aac 403

<210> 1933  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-A3

<400> 1933  
 gtcgtttcca atagagaccg gttgcaactt ccttggaag acttgaacat cgatctggtg 60  
 atagaagcaa cgggtgtttt tgtggattcc aaaggggcac ggaaacacat acaagcagga 120  
 gccagaaag tactgataac tgcacctgga aaaggagatg acgtgggaac tttcgtcatc 180  
 ggagtaaag aacacagcta tgatcatcaa gtacacaaca tcgtgtctaa tgcacattgt 240  
 acgaccaact gcttggtctc atttattaaa gtattgcacg aagaatttgg tattatcaaa 300  
 ggtacaatga caacgacaca ttcgtacact ggtgaccaac gattgttgga tgcagcacat 360  
 agagacctta gaagaacaag ttctgtgca ttaaataacg ttcctactac tac 413

<210> 1934  
 <211> 239  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-A6

<400> 1934  
 aacttgatt agtagtcac aacgtattag gtgcagaagg tgcacttcga attatggctg 60  
 cgaatcatga ctacgaagac tatgtcgaca ttccttgaat gttctctaca caacaataac 120  
 aacggctcct gaataaaaca actcgttggt ttttattcac aacaaaaaaaa ctcaataaa 180  
 aaaagaaaaa agaaaaaaat caagaacaaa tcaaaactgg aaaagtcaaa aatttttct 239

<210> 1935  
 <211> 333  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-A8  
  
 <400> 1935  
  
 acggacgcgt ggggtgcaatt ggtgaacaat agtaagagag agagaattgg ctctcgttct 60  
 tgtgacatat atatatatct atatatacaa atatacatta agccttagat atttacatct 120  
 atagtataaa atgggtatttc ggaggtttgt agagattgga agagtcgtcc tggtgaaacta 180  
 tggcaaagac cgaggcaaac tgggagtcac tgtggatgta gtagatcata atagggcggtt 240  
 ggtagatggt ccactcacgg gacttgcgag ancaaacatc aactggaaga gcttaacggtt 300  
 gaccccgttc aaagtanaga ttcaacactc cag 333

<210> 1936  
 <211> 287  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-038-Q1-E1-A9  
  
 <400> 1936  
  
 acgcgtccga ttgttttctt ggtagcagtt gtacattcaa catcatcaaa atgcaaaagg 60  
 aggaaagaaa agatcttcaa aagaaagaag cacaagtaaa cctgcagcag cagatgctac 120  
 aaagacgaca gaaaagtctg gtccggaagc caagttgaag ggaactgggtg caaagaaaca 180  
 ataaaaagtt gactatgcat gtgcagtcct gttatgtttt gtgagttctg tttgatagtt 240  
 tccagctatt cttttggtag tgaataaaga gaaaattttt tatattt 287

<210> 1937  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-038-Q1-E1-B10  
  
 <400> 1937  
  
 ccgacccgtc cgaggacgca tgggacggac cgtgggcgga cgcgtgggct ccacaggcca 60

tcataaaata tgtcaaggct cacaatccgc agcttccgga agacaaactt aaacttcaag 120  
 taaagtttagc tttgcgtcgt ttgttaaagc agaagcttat tgagaagggtg aaagcttcgt 180  
 ataagattgc tagcaagagt agtagagtta agaaagcccc aaaagaaaca aaagcgaagc 240  
 gagttgcgaa aacggttcaa aagaaacgag cgaacgattt gcaagagaaa actacgaaag 300  
 ctaaaaacgg taatgtgaga aaagaaaagc agaaagctcc agaaccccc aaggctcccc 360  
 ttaagagtga gaccacggag accaaatcct tgaggcacgg tactagtga gattcaaag 419

<210> 1938  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-B11

<400> 1938  
 gtccgaaaga attataagcg gtgcaggatt agaagagacg acccgaatca agttcaactg 60  
 tacttgcggtg tgtgtattca atggaataag taataagtgt tgattggcct tgtaactttg 120  
 ttgaggtatg taaacaaccc ttgatgtccg tcaagagggt gatgaaaaaa atcatgcgcg 180  
 tcgacagaag tgggtaccatc tgcgtgtttt ggtaccgcat atgaagatgc cttgctaagc 240  
 tgactctttc atcgtgctag agttgtgcta taacttttta aaacttgttt taaccgttgt 300  
 tgagactaag tttgttggtt atttgggttt tatatatata tatatatata tatatatata 360  
 tatatagaga gagagagaga gagagagag 389

<210> 1939  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-B12

<400> 1939  
 gtccgagact acagaccatc caactagtgc aaatgatgac actcagaatg ataatacgat 60  
 ggaaactttg gaaggagttg aaaaggagga gccgagaaag acaggagcgg aatggcgagt 120  
 agatgaacct gccaatgcaa ttttgcgtag aaattatgat catccgaaag gaacagtttc 180

tgtggatagc gagtcacttc gagaagagag aattgccgag tggttggaag agaataccaa 240  
 atatgaggggt caaggctggt atcgttgttc tcttctctct ttttaagctat ttcaaggcaa 300  
 agaatatggt cacaacatt tgaaaaccaa acatacggaa gaaatgcana aagtgataga 360  
 gaaagcagac aaggaacaat tt 382

<210> 1940  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-038-Q1-E1-B2  
 <400> 1940

agttccaaag gaacaagggt ttatctcttt ctggagaggg aacatggcaa acgtcatccg 60  
 ttactttcct acgcaggccc ttaactttgc tttcaaggac aagtacaagg ccatattctt 120  
 ggagggaggt gacaagaata agcagttttg gaggtatttc gttggcaatc ttgctgcagg 180  
 ggggtgcagct ggtgggactt ccttatttgt agtgtatcct ctggactttg cccgtactcg 240  
 acttgccgca gatattggga gaggcgaagg tcgtctctac actggcttaa ttgattgttg 300  
 tatcaaaacc gcgaaatctg a 321

<210> 1941  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-038-Q1-E1-B4  
 <400> 1941

accacacgtc cgcttccgac gaagagggtta tttggatatt tggctatggg tctcttatat 60  
 ggaaagccga atttccttat gtacggacag tgaaagggtg cgtgaaaggc tgggtgtagaa 120  
 ggttttggca aggttcgata gaccatcgag gaactcaaga tgctccagga agagttgtta 180  
 ccttgggtccc tgctgagaag attcgagcaa tgggacaagc ataccgaac gagtcttttg 240  
 ttacttgggg tgtaggctac caaattgagc aagcacaagt tgaaaaagtt ttgcagtact 300  
 tggactatag agaaaagaat ggttattcaa aaattccggt tgctaaatat gaacaac 357

<210> 1942

<211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-038-Q1-E1-B6  
  
 <400> 1942  
  
 ggtataggtc tagaagtccg ggtcgaccca caagtccacc cacgcgtccg gtaagaacaa 60  
 ggaaccttaa ctgaaagctt gaaaacgatt gtactgtaga gctgttctat tcatggtgtt 120  
 atttcacctt ctaatttgtt atatctccaa agatgggagc aaagtctaga cttttgaaac 180  
 gaaatcaatt gttcataatt ttgcatactt gttcaaagca ttgcaacatt aggagaactt 240  
 catttggtca tggtcacgat gatattgctc actagacaag gaaatacatc acatcgcacg 300  
 aattgaccac atgacattgt cgctactgtt gtatagggtt agttatgtgg aatattttga 360  
 ctttggttatt ttgttgagc caactggctg tcgctctttt ctttatgtac atatacaagc 420  
 attctcagac tgcctgaaaa agtttttact cgtcatgggt ccct 464

<210> 1943  
 <211> 296  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-B9  
  
 <400> 1943  
  
 gagacattcc tcttcatcat agacatttcg aatgcctcca aagctatata agtagcgtat 60  
 gcaagaaaga aaaaggtaaa ggaagaaagg aaaacagaga tggactatga gcgagaaggt 120  
 ggatagtcga gaaggaaaaa gcccagaagc caagataagg tatcaaagta aagaaagaag 180  
 gaaaaggaga agaagagaag gtaggcttan aagcagcana ccagagaaga aagcgtaaa 240  
 gcatgaaaga aaagaaatcc gaaaaagaag agaaaaaggt aagaaagagg accgaa 296

<210> 1944  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-C10

<400> 1944

tccgatgtga aactgcagta aactagcagt aggacggaaa gaccccataa ttcttgacta 60  
gataggttta gggaggagag agaatcatga agtagaggag gtggggtaag agatgaaaga 120  
ccactgcatg aggataagga atctaactga gtaaggaaaa taagcttaag ctagtttggc 180  
tggggaagta aagcctaaga aagagtaaata taggcaagca aaggcatgag agaagtataa 240  
tagcagaagc atgcttgaag aaaaagaaag agatttcaga aagggaagaa aagtcagcta 300  
tagagaacag gtgaaggaga actcgaaaag aagagaaaag ccgtactgaa gaccgacaca 360  
ggtactcgan gagaaaggag acccaaatta aggtgagag 399

<210> 1945

<211> 348

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-C11

<400> 1945

ggaatgtttg gcatgcaaca cgtccgtgta cattcaacat catcaaagc caaaggagg 60  
aaagaaagat tcttcaaaga aagaagccac aagtaaacct gcagcagcag atgctacaaa 120  
gacgacagaa aagtctggtc cggaagccaa gttgaaggga actggtgcaa agaaacaata 180  
aaaagttgac tatgcatgtg cagtccgtgt atgttttgtg agttctgttt gatagtttcc 240  
agctattctt ttggtagtga ataaagagaa aattttttat atttaaaaaa aaaaaaaaaa 300  
aagaaaaaaa aaaaaaaaaa aaagaaacaa taaagagaaa agagggaa 348

<210> 1946

<211> 285

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-038-Q1-E1-C12

<400> 1946

gtccgattct tcagtccaac agagttcgat tggaacaaga ggactaggta atgagttttc 60  
gcaagttacc gtgcagaaag tcncaagtca tatttcacgc tctaatagaa attgtatgga 120  
aaagtttcga ttttcgggac gtgaatagaa gaaaatgagg caagaaagga gatagaatag 180

caagcgttat gtatagaatg caatTTTtGca ttgagcgagc aagcTTTcaa cCtTtCttag 240  
 cCtCncgagT actTTTtTaT tcataaatat ttaattTTTt tccac 285

<210> 1947  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-038-Q1-E1-C3  
 <400> 1947

ggTcgagcac gcgtccaggc agagaggcat gggatttGca gagttcgaac gctCttatga 60  
 gaagtataca ggaggtgatc catcgagaat gaaagtgtcc gtggagaaaac tagacgaaga 120  
 gccacacgac gatcatagag gttccacttc ataaaagaga ctattgtGca catttgtata 180  
 ttCcttttgcg ccgttgtttg agagacaact attttttgcc gtggTcttgt gaggaagaga 240  
 aggaggcgta taaccggtgc caaagaaaag agagaagaag aagagaacga ctctataaga 300  
 aaatcaagga agaggcctcc aaagtatcgg cgacggaaga acaagatgaa taatatcgtg 360  
 ttggTgcgtc gtCtttTgtgt tggaacaata ataactcctc aaatagtaaa caacttgatt 420  
 tgattttcaa gt 432

<210> 1948  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-038-Q1-E1-C9  
 <400> 1948

tccaaacatc cgagccacgc atccggtaca atgtaaaaat gcacatacgg gaaagcatca 60  
 taaaaaaaaa aaaaaaggaa aaaactgaag tatcaggaaa aaaagaggga gtagatgagg 120  
 aaagaaagat caacgaagta agagtaagag aacgagtaat gtgaatgaaa gcacgaaagt 180  
 atttgaagaa gagagtgtaa agcgcgTacc ttttgcataa tgtcccagcg agtgaaagag 240  
 gaagcaaaaa gaaagaaaaa gaagtagcca ggtaagaccc gaagctagtt gatCttatgc 300  
 tgtccaagcg aagtaaggct gaaccagtat ctgtggaaaa 340



<210> 1949  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-D10

<400> 1949

cgtccgatct ttgagtanga tactatatat gcttgtggaa gaatctagag caaagtggca 60  
 ttggaaacct agaggaggaa gtagcagcgt tcattctgtg tcatttcaca aatagcaggt 120  
 cttcaatttt ttaaacacat ccctactatt aggaacgaaa tgaacgcgtg gaactttctg 180  
 aaggaaactc gagaaggact acaactgttg tccaagtcac tcagtggcac acgtgaaata 240  
 gtaaagtttc gatgcgaatg aaaataggtt ctagttctcg atgtggagca aatgcctcgt 300  
 tctataccag aaaacatgga tatctctaga gtctgaaagg gattatctgg tgtccaggag 360  
 gcggttttca acgaggtgta cattccacag tcctcgtccg cttctagaaa cgagcaatc 419

<210> 1950  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-D11

<400> 1950

acatccgaat ggtgttacca aatgtaaaac ttgcaacggc caaggagttc gagtacagat 60  
 aagacagatt ggaccgggaa tgggtgcagca aatgcagtct gtgtgtcctg actgtagtgg 120  
 aagtggagaa tctatcaagg agaaagataa atgtaccaag tgtaagggtc aaaaagttgt 180  
 gaaagaaaga aaggtattgg aagtttatgt ggagcctgga acagagcacg gccaaaagtt 240  
 ggtattttct ggggaagcag atgaggagcc aggaacgggt cctggagatg tgattgtagt 300  
 aattcagcag aaagaacatg agatattcaa gcgaaaagga agtaatttaa tcatggaaaa 360  
 ag 362

<210> 1951  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-D12

<400> 1951

caacgataat cgaggagcag catacagacc gagaaaatgg ccaatacaag gaacacttgg 60  
aatatgtggt tacctcaagg tggactcaaa acaagttgca agatagtga ccttgagttg 120  
tgcgggaaaa cccatgggta gacagtagaa caagtatgta tcttgcttca tatatcgtaa 180  
caggacggtg gaatgtgggt tgggtgtctcg tccaacaaga ggcacttggc aacaagaatt 240  
ggggtacttg cagtagaaaa ggtccccttg gaagaaaact agatagtaga ttttataaat 300  
aatctcattc ccattggaaa aaaatgttgt gatacacaag ttgtaaaagt aaaacgttta 360  
cttgagatac 370

<210> 1952

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-038-Q1-E1-D4

<400> 1952

cgggtcgagc acgcgtccaa gagaatcgtc atgcttcgga tctcaacgag gatacttgtc 60  
actacagaac ggatagtaga gtacccgaaa atgtcatagt tcgaaaagat acaaactgtg 120  
cttttttggga tttgtgtctt tttgcctttg atcttttgat tagtcgtctt agacactttt 180  
cggagccttc ttgtccagct tccataccag acacggatga ctatgcactt tttgtgacgt 240  
ggaataagaa aggtagagaa ggtgagcgtg cacagttgag aggttggtata ngaacgcttt 300  
cacctttgaa ccttcgaaaa gggatacata cttatactct agcaaggtaa gtgactccga 360  
actgaaacta tgaaagggag ctcaaaagct gcaagtgctt tcagaga 407

<210> 1953

<211> 432

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-D7

<400> 1953

acgttcgggt acatcgctgt cgtcatgcag ccataatttg cactatcatc gcaattcttt 60

gtcaattctc tggaatcaat tctatcaatt attatatggc aactctgatg catgaagttg 120  
gatttagtcg agtgcacatgca gtatattcaa gtatgattgg tagtggaact ttattgttgt 180  
ttaccattcc tgccatttac ttgatggaca gaatgggaag aagagtgctg tggttaagtt 240  
tattaccagg agtgctcggt ggatgtttca ttataggctt tagtttccga gctagcaaca 300  
tccatgtcga agaaggaatt tacatttggg gtatcataac atattatatg ttttgggggtt 360  
ctgggtatggg accttatgct tgggtactgg gatcggaat atatccaact tatattcgaa 420  
gtgaaggaat gg 432

<210> 1954  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-038-Q1-E1-D8  
<400> 1954

cccacgcgtc cgaaggcata tggcgccggc ttgctgtcat cttttggcga attgcaatat 60  
gcgttgagta aggaacctca gttgttacca tgggatccct ttgtcgcatc caaacaaccc 120  
tatcctatca cccaatatca gccagtgtat tttgttgccg atagtttttc ttccgcaacg 180  
gacaagtttc tcaagtttgc ggaaacgata gccagaccgt tttccgtttg gtacaatcct 240  
tactgccaaa ccatcgaaat tattgactcg ttggaaaaga ttatgaaaat agctggacat 300  
accaaacaat cgtgttcggt ggtgacggaa gctttgagaa gattgggtgga aagttaaagg 360  
taacgtatta gattaagcaa aaatagaaag gatttgggtg ttgtgagtgt tcatgcatga 420  
tggtttgtga tgt 433

<210> 1955  
<211> 336  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-038-Q1-E1-D9  
<400> 1955

tgcaggcgcg tgggctgacg cgtgggggaa attgcatgaa gatgaacaag atatgggttg 60  
gttgttggtt gaccttgtgt gttgttgtcc tgggtcaagc aagtagcagt tgttcttcca 120

caagggttcga ctctgctaataa ttgccttggtc aactttgtgc ggcaatacac cacatacaaaa 180  
tagctactga ttgccgaagt aaatggacta accctgtgac tggtcataat cggagtaaac 240  
acttgcaaga ttgttggtca gagagtctat gtgatgtaca agatataaaaa tatgtgaaga 300  
ttaaattggt ggctccaccc aaacagttcc ttttgt 336

<210> 1956  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-038-Q1-E1-E12  
  
<400> 1956

tccaagcgtc caggattgga tcccctgagc cgccgcttgg ggtccgtag ttgcagattt 60  
gggtcaaaat ataaatcaac ttgtgataaa tgtttttgga aattatgtcg ttcaaaaatt 120  
gttggaatat ggtgatgaga atattcgtca attgttgaca aagaagttgg aaggacacat 180  
gctttcattg agtttgcaca tgtatggctg tcgagtagtt caaaaagcct tggaagtatt 240  
gaaaggggaag gaacgaacca tggttggtgca agaattgaat ggacatgtgc ttcaatgtat 300  
tcgtgatcag aacgggaatc atgtgattca aaagtgtatt gaattgggtg aaccagagag 360  
cattttattt atcgtcgaat ccgtc 385

<210> 1957  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-038-Q1-E1-E6  
  
<400> 1957

accacgcgt ccgcccacgc gtccgacaga aacagccaaa atatttgctg gtgtggatgt 60  
tacgaaagaa cctattcctg ttcttctac agtacattat aatatgggag gtataccaac 120  
caactggaaa ggacaagttg tgacgttaaa agatggaaaat ccaaatagtg ttgttcccg 180  
tttatatgcc gctggagaag ctgcttggtc ttccggttcac ggtgcaaata gattaggagc 240  
taattctttg ctggatattg ttgtctttgg aagagcctgt gctcgaacag ttgcagaatt 300

atataagcct gaacaaaaac aacctccttt accggcagat gctggagaag aatctatagc 360  
tagattggac anatatcgac atgcaaattg aagccttana acaagttgaa atcgtctgca 420  
catgc 425

<210> 1958  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-038-Q1-E1-E7  
  
<400> 1958

atgaaaaaga aaagttgttt gaggaccaa cagagtgaca agaagagatg gcaaggagaa 60  
tattgggtgc ttatatggga gatgccacag tggcaactct gttcagtatc aaaattttgt 120  
tctatcttac tatcatgggt ttctccataa ctatcttggc tctcatggga aagaactcgg 180  
atgggtatttg gatacatagt gtgccacctg cagatcaata ttgtgcatac aagtcttcat 240  
tggaggtgaa ccaccatgga attgcttcct attgcaagta tatcgttgcc gtagctgcta 300  
ttgggttgggt tatctcgttt ttccagtttt gctacggctc gttgggtatc tttttcaagt 360  
ggcaacaaaa gttgtggtat attgaagatg ctttcaatct atttttctgg gc 412

<210> 1959  
<211> 289  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-038-Q1-E1-E8  
  
<400> 1959

aatgcattca acatattact cactttgatg ttcgttcgac gagatgaaag attagtacaa 60  
gcaacagtat ttccggtatt tgtttttctc tcaaacgcga agagtttctt ggttcctcaa 120  
atgattcttt aatgacctgt taacgactaa atgatttttc acgaggttgc aaatataatg 180  
gtcatcataa tcaatccagt ctgctataca ggacctttta ttcagatcgt tcacatatta 240  
ctagtggctc tgaagataaa gcggtatata tatttgccat gtccacatt 289

<210> 1960  
<211> 243  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-E9

<400> 1960

tccgatcgta cagttgtcga tcgttccact ggtacgtacc atttattgag tgatcctagc 60  
gatccgttca atccggtagt tctcagtatg gatatgttgg aaccacaaga agacatgata 120  
ggaacgattg attagtatat tgcactctaaa aggaagaatg aatagaacac accactatatt 180  
tattcttaaa aaaaaaaaaac tattgtcaat aattttcaac gctactgtaa aaaaactcat 240  
gac 243

<210> 1961

<211> 372

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-038-Q1-E1-F10

<400> 1961

tctaggtggt ttgcgagcga agaaaaccaa gcgattggtg gagactgcaa aggaaaccag 60  
ctcgcttggg tatgagttgt tgaagagttt agaactaagg ctgcaaacia ttgtatttag 120  
aacaggctat tgtaagagta tgagagctgc ccgtcaacta gtttctcacg gacacgtacg 180  
aatcaacggt gaccgtgtgg ttcaaccaag ctatcgtgta aaagaaggag aattcattac 240  
catcgatcca catataggaa tctgtaggtt acctttcatt ccactcttcg acccgaggagc 300  
taciaagttt aagaaaccag aagattgtga tgtttatata agtcccccta tcttctcgta 360  
cnacccaaat at 372

<210> 1962

<211> 327

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-F3

<400> 1962

cggtcgagca cgcgtccgag atttagccaa cggcgtcgtc gtttcccatg ccaaaagaca 60  
aaaaagaagt ggacaaggca aaaaaagcag ctacggctgt aaagtctgga ttgaagaaaa 120

agaaaggtca taagataaga acaaaggtcc acttccaccg accgctcact ttgagattgc 180  
cgagacaacc aaaataticct cgcaagtctt ttcccaaaaa accagcttta gatcaattca 240  
aaattattcg ataticcttta acaacagagt ctgctatgaa gaaaattgaa gatcacaata 300  
ctttgggtttt cttatgcgac gtgagag 327

<210> 1963  
<211> 330  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-038-Q1-E1-F5  
<400> 1963

agccataaca gagttagata ctctttcgga agagagttac aaggactcta ctctcattat 60  
gcagttgttta cgtgataatc ttaccttgtg gacttcagat atgggacggtg aagaagatgg 120  
aaacgcaacg aaaccagacg gaaaagttga accagacccg aacaaaaagg agtgatagat 180  
aaaagcatgt gcgatatgtg tgtttttggt tttcgactcg cacattgctt ttgcacgata 240  
agaagaaaga aagagagata gttgaatatg cangacagat gaatttggtt taagacgaca 300  
caacctgttt ggcaataaaa aaaaagtgat 330

<210> 1964  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-038-Q1-E1-F6  
<400> 1964

acggacgcgt gggttcaaag caacttatct tcaatagtaa tgacgccaca agggacgata 60  
agcttgtctt atacagacaa gtgctcttgg aaaattcgac cagtttactt caaatgtctt 120  
tccatcaact tttgttcagg tctatgtgga agagaaaaga gagaacactg tatttgaaag 180  
ctgacctagt acaactgggtg catcttgccg agttgaggtg aacaattcaa atgaaatgaa 240  
tagtctcaag taccggaata gggtcacaag gtaatttttt agcagtcact tggtttcgtg 300  
acagtggaaa accgcagtga aaagtttggt gatcaatacg gcgaaaggta taacaacgga 360

aattttcttaa cgagaaacat

380

<210> 1965  
<211> 324  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-038-Q1-E1-G1  
  
<400> 1965

aaacagatgt atgattcagg caatgaactg acgcattata tcatataata acacatgcaa 60  
gtaggtaaag cgaacgggtg attaaatcgc tggtacataa tgcgagacca tcaaagcata 120  
gaacaatgta acaaatggtt acagtaaaaa ccatagacga agtatacgcg ggaatctcac 180  
atgaggaaag ccacattggg actgacaaat ggtccaaata agataagtca gactgggga 240  
aaattcggca ctgtactcga aagtatgacc cagtaatgac gattgtatta aacagaatac 300  
gcagtaaaat gatgtaatca acgg 324

<210> 1966  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-038-Q1-E1-G10  
  
<400> 1966

gtccaagcgt ccaagcagat ctgtgagcat cggctgaagc atctctggaa gcttacaagg 60  
cagcaagtga gatagcttcc accgaattgg ctccaacgca ccccatccga ctcggttttag 120  
ctctgaactt ttctgtcttt tattatgaaa ttatgaattc tccggatcgt gcttgtcagt 180  
tggcaaaaca ggctttcgat gatgccataa cagagttaga tactctttcg gaagagagtt 240  
acaaggactc tactctcatt atgcagttgt tacgtgataa tcttaccttg tggacttcag 300  
atatgggcgg tgaagaagat ggaaacgcaa cgaaaccaga cggaaaagtt gaaccagacc 360  
cgaacaaaaa ggagtgatag ataaaagcat gtgcgatatg tgtgtttttg gttt 414

<210> 1967  
<211> 422  
<212> DNA  
<213> Cyanidium caldarium



<223> unsure at all n locations  
<223> Clone ID: LIB190-038-Q1-E1-G11

<400> 1967

```
gtccgaccac gcatccgatg gtgtataacc agcaaataatg atcagaacaa cgaaaaacat   60
cgccaagtaa agttcaatat tgaagaagga aatgggtcttc cggatacggc tactacggag  120
gaagtttttag aagggttgaa ggatgcaggc tttgaattga tcgatgccta cgatttggcc  180
gaatatctgg aaactccttg gtatgctcca cttagtgcc a gtttttcgtg gaatggtttc  240
cgtcataccc gattaggaca ttatgtaaca catatttctg tgcggtttct tgaaaagttg  300
gggtattattc ctaaaggctc atctcaagtc agcaagttgt tgatgaatgc agctcgtgac  360
cttgtggaag gaggtaaatt angcatttat actccgatgt anctttttgt ggcaagaaag  420
cc                                                                    422
```

<210> 1968  
<211> 359  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-038-Q1-E1-G12

<400> 1968

```
tgagaagtat acaggaggtg atccatcgag aatgaaagtg tccgtggaga aactagacga   60
agagcaggtt ccacttcata aaagagacta ttgtgcacat ttgtatattc ctttgcgccg  120
ttgtttgaga gacaactatt ttttgccgtg gtcttgtgag gaagagaagg aggcgtataa  180
ccggtgccaa agaaaagaga gaagaagaag agaacgactc tataagaaaa tcaaggaaga  240
ggcctccaaa gtatcggcga cggaagaaca agatgaataa tatcgtgttg gtgcgtcgtc  300
nttgtgttgg aacaataata actcctcaaa tagttaacaa cctgagttga atttcaagt  359
```

<210> 1969  
<211> 441  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-038-Q1-E1-G3

<400> 1969

gcgtccaacc acacgtccgc ccacgcgtcc ggatttggcc aacggcgctcg tcgtttccca 60  
 tgccaaaaga caaaaaagaa gtggacaagg caaaaaaagc agctacggct gtaaagtctg 120  
 gattgaagaa aaagaaaggt cataagataa gaacaaaggt ccacttccac cgaccgctca 180  
 ctttgagatt gccgagacaa ccaaaatata ctgcgaagtc ttttccaaa aaaccagctt 240  
 tagatcaatt caaaattatt cgatatcctt taacaacaga gtctgctatg aagaanattg 300  
 aagatcacia tacttttggtt ttcttatgcg acgtgagagc ttccaagcca caaatacgcg 360  
 acgcggtaaa gaaaatgtac aacattgtgg cagaaaaggt gaacacctta atgaggccgg 420  
 acggacagaa aaagcttatg t 441

<210> 1970  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-G9

<400> 1970

gtccgagttt ttagtaaaag ttttcattca gcatggctcc taaaggtgct aaaagtgtac 60  
 ccgttgacgg taaaaagccg gtggcaaaag ttgaaaggaa gaaatcaaag aagaagatcg 120  
 gagacgtatt ccatttatat atacaagggt ctgaagcaag ttcattctga caccggaata 180  
 tccgcaaagg ctatgagcat catgaattcc tttgtgaatg atatTTTTga gagaattgcg 240  
 tcagaagcta gcaaattagc tgcttattcg aaaagcaaga cgcttacttc gagagaggta 300  
 caaactgccg ttcgtctttt gttaccagga gaacttgcaa aacacgctgt atcggaagg 360  
 tacaagcag ttacanaata cac 383

<210> 1971  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-H10

<400> 1971

aacacaaata tgagtatatt tgcaccatcg atcctcatta ggacgctgtg atgcgcaaga 60

gaagaaagat gagacagcgt tccaagtaac ggaagaattc ctcggacgtc tgagttgaat 120  
agagttccta aaacgtggaa aaactctttt tgcaactctg gcgcagtgag tataccctgc 180  
tacggaaggt tggaagtgtt tccgaggatt gttcgcaagt tatgataaaa ggttcttgtg 240  
gttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa taaaaaaaaa 300  
aaaaaaaaaa aaaaaaaaaa ataaaaaaaa ataaaaaaaa aaaaaataa aaaaaaaaaa 360  
aataaaaaaa aaaaaaaggg gggccccccc aaa 393

<210> 1972  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-H5

<400> 1972  
agcagcatga gcagttggaa gtattatggc aaaacataaa ggcaacaatt tttcccgtcg 60  
aaaatacttc aactattcct tgtggatggg tgaatccata caatctttct acacctatag 120  
gaacaaagag tttgggagtt cagaaacaag cttcttggtc cagcgaaact acttgtgaac 180  
gtagacgtta cagtatagaa aacttggtgg agctttctag tcgtccttat ccaaaccctc 240  
cagcgcataa aactaagaaa cgaaaaagag aaatagagga agaagagaaa cagtttacat 300  
taccagactc agatgtgctg aattgacgat attgtcgtaa aaggaaagaa tagctctctc 360  
acctttgaag atatgtttct ttgcgatgcg ctaattgctg gtct 404

<210> 1973  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-038-Q1-E1-H6

<400> 1973  
cccgggtcga cccacaagtc catccgctgt caacgagctg tttctctggg tatcaatctg 60  
gcgtcgtaa ccaaaatatt aaagtgtgca ggaaatgatg acagtataac gctaagagca 120  
gacgacaagg gagataaggc ggagtttgtg ttgaaaagtc aaacgcaaga ccgtctttct 180  
gagtttgaac tgaaactgat ggacatcgat tcagagcatt tgggtattcc tgacacaaag 240

tacagtgcag tcgttgaaat gccttcttca gaatacagac gtatctgttc cgacctaggg 300  
 gtgatgggtg ataccgtgag gatataccgtc tccaaagaaa gtgtcaagtt tcaagtggat 360  
 ggtgatattg gcaaggggaag tgtctgtcta catccatctt ctgtgggtga taagcctaca 420  
 gaagttgtga aaatttcctt ggaagaacct g 451

<210> 1974  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-038-Q1-E1-H8  
 <400> 1974

acccacgcgt ccggaaacat gaaaagattg tcatangaaa gtggagcaaa gactttttca 60  
 gacatttgag ggttatgcct cctcctcctc ctccctctca atcctctata tcgacgacca 120  
 ttactggaaa agctatttgt agttatgttt ctgcgctatt agaagaaaga gatcgcggtan 180  
 tgaatgctat tcgaaagcat taagttccta gttgtatggt tacagaggag aatgattcat 240  
 aaacgggtttc cagcaaagag ctatcaatth aacttggagt tatgatgcct ttgttactgc 300  
 ggtttgggtcg agagaagatg ttcacagggt gtttcctaaa tattgtgaac ctccctctcc 360  
 acctctacct 370

<210> 1975  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-039-Q1-E1-A1  
 <400> 1975

accacgcgtc cggtttttga cctccgaata aatttcgggt ttggcgctt gtcccgaatg 60  
 tctctcggtt caaagtcttt tgatcctctc atacaaataa gaatcgactt gactctctcc 120  
 ggaagaaggt tcgtcgacac tttcttatgg aatatagaag aatgggagga ttctatgcga 180  
 gcgttcgcaa gaactatagt agtagatact tctttgcctc actcggcgga ggagcaaatt 240  
 gtttcaagca taaaagaaca agtggcggtt tacattccct atcgttctca agaagaagan 300

acaggagaaa gaagacacat tttaaagcta gacattcgta tagggaaagt agtactaaga 360  
gaccagttcg aaatgggacg aagcaatgcc gataactctc ctgaa 405

<210> 1976  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-A11  
  
<400> 1976

gacccaaacg tccggtagct ttaagtatgt tcaataccga tgaatcgata agaggatttg 60  
caaagtcttg tttcgaattt gcagctgcta ggaaactgcc cttgttcctt tccacgaaaa 120  
ataccatttt gaaaacgtac gatggaagat ttatggaaat attcgaccaa gttcgtaggg 180  
aatatcctca tgttgcttat gaacaccgcc tcatcgatga tatggtagcg caggcattaa 240  
agtcgagtgg aaactttgtg tgggcttgca agaattatga tggagatgta caaagtgata 300  
tcattgcaca aggtttcgga agcttgggaa tgatgacgag tattctcatg gcgccagatg 360  
gcaagacggt ggagtcggag gctgcgcacg gtacgggtta cagaca 406

<210> 1977  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-A2  
  
<400> 1977

atacatatcc ttgtttttat tggatattag tacagtgtct tggacggtgt tttatcgcta 60  
tttacaaggt tcgaccacag aggactcgtt cataaataac gatagcgagc tgtattcgat 120  
agtcgaacag gaaacttttg atgaagcaac acattcacgt gctacggatc acacagcgca 180  
ttctccagca gttggtccac aaacaagtac agctgtgcca tcggatgcca aacaacaact 240  
tcatggagac aacttgggtat cgccacctac gaatacagaa ataggaatgg aagataacttg 300  
gaataacacg tctcgttata tgtctatatt atactatagc tggataagat ggcgtcattt 360  
attgcattcc tgtcgacatt gggctactcc tcctcgtatt gccatcgat 410

<210> 1978

<211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-039-Q1-E1-A3  
 <400> 1978  
 gcaaggagat caaaagttat tacaaagact tgtacaacat aaagtagttt gtgaaagtga 60  
 cttgataaaa tggtttcacc aattcgtatt gcaatccgca cgtggaaata acaacaacaa 120  
 ccagacaggt ctacagaaac agttgaaagc tcgcttggtc caatacaaag caaaactgca 180  
 gttgttacgt ttgtcgctaa atagtatatg ggtacaagaa aagaatactt cttattggtc 240  
 gattgtcaat gcacgagatg acagaattgc gcaaaaagtg tgcaaatata gcgatacaga 300  
 tatttttggtt ttcaaaacga tgggtggatta tgtattgcaa gaaaagaata gtcccacgga 360  
 gctgatagat aagcgtgagt tgttatcgtc gttggatagt ctcaaggaaa agagac 416

<210> 1979  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-039-Q1-E1-A5  
 <400> 1979  
 cccacgcgtc caccacgcg tccggettaa aattgagggc ctttgactgg attgaagtca 60  
 accatgtcag taacgctact taaccctggt gcggaaataa gcaaacgcgg agtcgcgttg 120  
 tacactacta ttaacgctgc gaaaggacta caagatgtgc tacgttcgaa tcttggccca 180  
 aagggaactc tcaagatgct cgtttcgggt gcaggagata ttaagcttac aaaagatggg 240  
 aaaattctac tggaagaaat gcaaatccag aaccctacag cttccttaat tgcacgaacg 300  
 gccactgccc aggacgacat ggtccgagac ggtacgacaa cttgtgtcat actgactggc 360  
 g 361

<210> 1980  
 <211> 291  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-039-Q1-E1-A6

<400> 1980

accacgcgtc cggccacgcg tccgcgcacg cgtccgccca cgcgtccgca gaagaagtca 60  
acagtgtgcc tcgtaggatg aaataaactt tatcttatta tgctcaatgt acactactaa 120  
taacactgaa aggcagacta cacgaatgtg ctaagttcga atcttggttg aatgggaagt 180  
cacaagatgc tcgattcggc tgcaagagac atttcactga cagtcgatgt gaagcttcta 240  
ctgtgagaaa tgcctgtcga taacctaca gcttccttag ttgcacatcg g 291

<210> 1981

<211> 435

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-039-Q1-E1-A7

<400> 1981

aggaggattc tgtgacgtat cctagaggca tcacggccag aggatataac tcagttatat 60  
gaagttctta gacatcgagt gcctaagcga gctccaaagg aagcttaatg acctcgaatt 120  
aacggactat cgtgttcggt gtcaattgga agcttattcc tgtaaaccgg cagggtttga 180  
caaaaaattg agcaaatcgt tggagcaaag gttgttgga caacttgaag cttctccaag 240  
ggcattccaa gcgtctcccg tgggctcttt agaagaccaa agtgcccga agacattaat 300  
caacctcatt tgcacactga acgtgcgcga ccaggattac gactttagct cgctgcagct 360  
ttcaagactg aaacgtgtcc aagatgtaca cgcacttcag cagcacgtcg actcgctggt 420  
tgagcgcttt tacag 435

<210> 1982

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-039-Q1-E1-A8

<400> 1982

agagattttg tggttcaatg gcttttggtg caactagtgt gatcataccc acaaagtgtc 60  
gtttacaaaa gaaagtatca catattccct cgtattgtgt gaggatgagt tgggttgcaa 120  
ctttaaaatc ttccaaaata gaaggctcct ctgctattcc agaaggtgaa cagcctgacc 180

tccatacaaa gtgggagcag tgtttacaag agaaaggggtc accagagtgc caacagtgtc 240  
aaggttcaag acaaatacca tgtcctgcat gtgaaggaaa gggttatttc gtgatggaag 300  
ttttcaatgt tacctctagt aaccagtgtc aagtttgccg tggacaccgt aaaactcctt 360  
gccaacttg taaagaatac atttatcggg cagtaaaaga tttatgatat aaagtata 418

<210> 1983  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-039-Q1-E1-A9  
<400> 1983

cgtccacca cgcgtccgcc cagcgtccg ggaagttat ggcaaaaaca cgtgccagca 60  
gcagcggtaa aacgtgtgta gcaagcgtag agcagaagaa ctgggtgtaa aggtcgagta 120  
gtagagtaag tgtaaaagg aaaggaaagg agagaaagag gaaagggatg aaatgcagag 180  
atctctagag aaaggcaaga aagaaaagaa aggaagacac agtaaagag gcgagaaagc 240  
ataggaagtg aaacggatta ggaaccctg tagtctatgc agtaaaagaa agaagtagta 300  
agaaaaagg gagtcattcc accaggggag taaaggcgca agaaagaaac ccaaagcaat 360  
tgacgggaat cggaaaanag ggtggatcac gtaaattaat c 401

<210> 1984  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-039-Q1-E1-B11  
<400> 1984

accgtttgca cgtagttgat caccgagaag aagacgattc ggaggaccgt atatggaggg 60  
aagaagaagc tgaggaagtt ccaaaatacc aagttccaga agagagctac gcacagagag 120  
aagttagtgg aagaaagttt cgagaagaaa tgcttcaagc caaagcttca cactctacca 180  
acatagaact ccatgttggc gatagatgct ttgttgccgc taataaccgt gttgcaacag 240  
ttcgttacgt cggaaagctt cctgttcatg aagctgaaac agtggttgtt ggagtccagt 300  
ttgacgaacc tgtaggaaag aatgatggca gttatcaagg acattactat tttcactgag 360



aaccaggata tggaagtttt gtccctttga aa

392

<210> 1985  
<211> 164  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-B4  
  
<400> 1985

aaatgatgat tgctggggttt tgtgggtcaa tagcccaagt tagtccttat tacaagaagg 60  
ccttgtgttg taaaaaagct tgtgtattta gatgctctgc tcataaacat aacattttga 120  
aatatttgga ccatgtttct cccggaaga aaagaaagcg tttt 164

<210> 1986  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-B5  
  
<400> 1986

cccacgcgtc cggaattaag tcggatggaa tagctaagaa tcttgaagaa tggaacgaaa 60  
taaaaatcat tcagactcga gttttcacca tgaaagaaca gaaacaactg aagagtcgac 120  
gtcagtcccg acggaacctt gtatgggaga gttgcagcaa cttctttcag tgacacttga 180  
aagaagccat ttggacataa ggaagcttca acaagcagcg aacgattttc gtttatgcgc 240  
aaagacgttt aaaatatgtg atgtgaagtt ggaacaaagt tttctcaaaa agtcaagtga 300  
ttagacaccc tcatgggttt tcattgaaat aactggttgc tcttccttga gggcaactat 360  
ttattacgaa aatttcgtgc accttctctt acaata 396

<210> 1987  
<211> 358  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-B6  
  
<400> 1987

actttattgt gtttcccttg tgtgcgcttt accgtatagt agaaattcta atgttacaga 60

gctagatccg cgttcttttg aaaaacaagt tttgggctca ccggagaact ggtaagggag 120  
 ttggaatagc ctaactcacg ttcgggcgtg ccctaaggaa acaagaatag gctcatagag 180  
 ttctatgctc cttggtgcgg ttattgtaaa caacttgagc caatttacga gaaagttgct 240  
 tcgaaattga aagatgctgt aagagttgga gcagtaaata cagacaaata tccagagctc 300  
 gcacaaaggt ggtgacggtg ccaaaagggt gcacggaaac tgcttgtgtg gctgaaat 358

<210> 1988  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-039-Q1-E1-B8  
 <400> 1988

acatcaacaa ggaaggaaag gacacttatg tcaagttcca ctgggttcct aagctagggg 60  
 aacagaatct actcgatgac gaggcacaga ttgttgaggg aaaggatttc tctcatgcaa 120  
 ctcatgactt gatagaatct attgacgctg gtgactaccc tgagtatact atgtgtatcc 180  
 aaacaatgga tccagccaca gaaaatgact atgattttga tcccttagat gataccaaga 240  
 tttggccaga agacatgttt ccaaagaggc ctgttgagcg tcttgtccta aataagaatg 300  
 ttgacaactt tttcttagaa agtgaacaga tcgctttctg tccaggtgtg atggtaccag 360  
 gtatatatgc ctctgatgac aaaatgctgc 390

<210> 1989  
 <211> 210  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-039-Q1-E1-C2  
 <400> 1989

accacgcgtc cgcccacgcg tccgcccacg cgtccggagc aaatcgatat gaaaaggcaa 60  
 aatactccaa atagaaagtt ctttaccgct gtagtggctg cactgtattt acatgctgtt 120  
 cactcgacac caaaagatta tatagctgta catttggtgca actttgttgc ttttactatc 180  
 gtatttatag ccaaaatgcc ttggatgcac 210

<210> 1990  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-039-Q1-E1-D5  
  
 <400> 1990  
  
 cccacgcgctc cgcggacgcg tgggcgacgt cgcatttgta gtagtattgt ggtgctcttt 60  
 ccaaccgggtt tctccaacga cgcaacacaa aaatgcctcg tggccaaga aaacatatga 120  
 aacgtttggc agcaccctaaa cattggatgc tcagcaaact tgggtggtatt tgggcaccta 180  
 gacctagcag tggaccgcac aagttgcgag agtcactacc tctcttattg gttctccgca 240  
 atcgactgaa atatgcgctc aataatagag aagcagtggc tattttgatg cagcgtttgg 300  
 taaaagtgga tggaaaagta cgcaccgata aaacttttcc agcagggttc atggatgtga 360  
 ttgaattgga acgaaccaat gaaacttttc gtttaatgta cgatg 405

<210> 1991  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-039-Q1-E1-D6  
  
 <400> 1991  
  
 accacgcgctc cgcatttttg tagcgtacag gttgtggttt tcagtttgta tggtttggtc 60  
 atttgtgccc gtaacgaagc ctattactac caattgtcgt caaaagaaga aaagtacggc 120  
 tcaatggggg aaaagatggg gaacatacgt accgtcaact agcggttcgt tcttacagt 180  
 taacaggtgg aataatcaca agcaaaactt tcgaccacaa aggcaactct tccattgtgt 240  
 cttggaagac tttagcacgt ggatgtgcaa cttgaagagt tacgtggaag acaatactcg 300  
 gaaaatttgg agacaatcca agattgaagg gcagcagcac aaagaaagtc aaacgccgga 360  
 aa 362

<210> 1992  
 <211> 447  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-039-Q1-E1-D7

<400> 1992

gtcgacccac gaatccaacc acgcgtccgc attttggttag cgtacagggtt gtggttttca 60  
gtttgtatgg tttgttcatt tgtgcccgtta acgaagccta ttactaccaa ttgtcgtcaa 120  
aagaagaaaa gtacgggttca atgggggaaa agatggggaa catacgtacc gtcaactagc 180  
ggttcgttct tacagtgtaa cagggtggaat aatcacaagc aaaactttcg accacaaagg 240  
caactcttcc atttgtgtctt ggaagacttt agcacgtgga tgtgcaactt gaagagttac 300  
gtggaagaca atactcggaa aattttggaga caatccaaga ttgaagggca gcagcaaaaa 360  
gaaagtcaaa cgccggaaaa gtcgaccttc tatttacaga agcaactttt gaaaggccag 420  
ttggagagta ttttacggga cttgtac 447

<210> 1993

<211> 322

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-039-Q1-E1-D8

<400> 1993

aattacaggc aaggggaatgc atctcatccg ctgttacatt gattgtgatt tgttgtgctg 60  
agcgagaggc aaggtgttat catggcaaag gcagtgagaa ttggtgctga aggttacagg 120  
ttaaagttgg acggtgcagt tcaagagata gacggtcgtt ctgtagttct ggtagatgtg 180  
gatagtatta cccctctcat gtttggaggt agtatgaaag aaaaggccaa attgttggat 240  
gccaaagttc taaggaagta ttatgaggag aacaaggact tcttcttctt gtcgactaga 300  
gaagagaaga aaatgtttgt ga 322

<210> 1994

<211> 345

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-039-Q1-E1-E10

<400> 1994

ggtactagtc tagaagtccg ggccgaccca cgagtccgaa aatattcaac aagagttgaa 60  
cgactttgtg gaaaaaacia gagaggaaat ggaacaagta agtaggaata cgagtgttgt 120

aagttttcca tcacagactc gtggatatag atggttagagt gtgttgctca acatatcggt 180  
aagaaagaag aacaacaaag agggagctac catagatagg atgtatttat ggatatgttt 240  
gtgtctagat attgccaata aagcgggtgtg tttggataaa aaaaaaaaaa aaaaaataa 300  
aaaaaaaaag aaaaaaaaaa aaaaaaaaaac aaaaaaatca aaaag 345

<210> 1995  
<211> 361  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-039-Q1-E1-E3  
<400> 1995

aattggtttg ggattgttgt gtattggtgg agttgcaaag aggaaaacat gtcaaagttt 60  
gccttgcttg cattgcctta tgactacagt gccttggaac cacatatcga cactatgact 120  
atgaacgtac atcacaaggg ccatcaccaa acttatgtca acaatttgaa tggtgccata 180  
caagggggaac atgggggtca gttcaagggt ctctccatcg aaaacatcca gaggaatgct 240  
gcaaaggcac ctgatgctat caaggcaact gtgagaaata atggcggtgg tcactacaat 300  
aattccttgt tttggacact aatggcacc acaggatctg caaatattgc acctcacggt 360  
g 361

<210> 1996  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-039-Q1-E1-F1  
<400> 1996

accacgcgtc cgcccacgcg tccgcccacg cgtccggtgg gatgaagtac aaacaagcag 60  
ttttgagtga aaatgtgatt cctcaagaag tgagtgccaa caagttgcga gcctgtatgg 120  
tttgtggact ggtaaagacg tttaaccagt ttgtcgtttt tggctgcgaa aactgtcctg 180  
gactgataga cgtgagagtt gcagatagag aacgagtagc aaccgttacc acgagtttat 240  
tttcagggtt ggtttccatt actcgtcctt tggatagttg ggttgccaag tggcagcgag 300  
ttgctcgtct cgtacccggg tgttatgcaa tagcagtagc agctgctctc cccgaagata 360

ttgtggaaga gttggaagaa aaaggacttc aagtacctcg aacgagagca acgcagctgc 420  
ctatgaat 428

<210> 1997  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-F11  
  
<400> 1997

acggacgcgt gggcggacgc gtgggcgagc aattcaaggc aaaactgagg caagactgga 60  
aaacggcaat atttgcttca tggaaagtat ggccattggc acacgctatt aactttcgat 120  
tcgttcctag caatcaacgt ttactttata tcaacgctgt gcaaataatt tacaacgtgt 180  
ttctttctaa tattgggaat aagagggcca cttgagcaag taatgggaat atccaaaaaa 240  
tatatatata tatatatcat gagagagata cgtacttggt gtgtgttggt gggttatagt 300  
tggtgttggtg tttcattaaa gtgaagtta catatcaaac aaagctaag ataactggta 360  
ctcctcgaaa agc 373

<210> 1998  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-F2  
  
<400> 1998

accacgacgt ccgagagcga gttttgggta ttttgtgtcc tcaagcagtc atgttggggt 60  
tcctaccgac catatcaact agtttcccc tacgacaaag tgaaagttgc cactgttccc 120  
acgtatctaa atacagggtt gggcagcgtt ttgtcgcacg caactgtcgt cagcctcggc 180  
aaggaacaat cttgataatg tcaagcacia gctcttcgga cacttggtta cagcagatac 240  
aagacagcat caagaaagcg gaagaagcaa cgcaaaagta tggaaaaaac tcgaaagaag 300  
cagctgctgc ctgggatgcc gtggaagaac tggatgcaga agcttctcat cagagagtaa 360  
aagaaaagac cgaccctttg gaaaagttct gtgatgagtc tcaagaagcg gacgagtgc 420  
gagtatacga t 431

<210> 1999  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-039-Q1-E1-G10  
  
 <400> 1999  
  
 ccgggcccgc ccacgacgtc cgctggaaag tacagtggaa agaattattcc agaaggttcc 60  
 cgactgtcac tcgagaaata caaaggattg aaggaagtag cttttacgga acgagagtgg 120  
 cagattgaga agaccgatca gttgaagcca cttgctcaag aacttggttg tactgtagct 180  
 cagttagcga ttgcttggtg tgcagcgaat ccccatgtat ctaccgtgat tactggagcc 240  
 acaaagttgc agcaacgaga agagaatttc aaggcaatgg atactgttcc caagttgaca 300  
 ccggaagtaa tgaaacgaat cgacgacatt gcacaaacca aaccagacta caatccagaa 360  
 atgaaaatgg cacgtcgagt gagaggaata gaaaaggctt gaagatgtaa tgt 413

<210> 2000  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-039-Q1-E1-G2  
  
 <400> 2000  
  
 gcgtccaact ataacttggt gctacccaac gatcttaata acaatactag caacgcacga 60  
 ggatgacaag aaaatgtcgg tttttgatcc cccatgggga ataacatgag taaccactat 120  
 aataatattg ctagatgtag tattgatcac caactacata actaaatgtg ataaatgaac 180  
 atgtaactat gaataacgct ccagattttg taaattttct tacttttgac aactttcctg 240  
 attacatgaa gtcgtatata gatgtatggc gaaacgtacg aagcatgogc agtcatcaa 300  
 gtcgaagtcc tgtcaaactg ataaaatttg aatgaacttg atagttgaat gtcgacgtat 360  
 ggatggccct atccgtcaca actgtcctta tttttgtaca agaacgactc acctatt 417

<210> 2001  
 <211> 157  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-039-Q1-E1-G4

<400> 2001

ctggttgctc cgactgctct gagttgcctc tttccctctt tccttatcgg tgccgcaatt 60  
gcacccgacg tactttcaga ggatagatcg ggatatgctc agcaaggcct gttgcaacat 120  
cagtgccaac tactatgtta gcagtatgca ttctatc 157

<210> 2002

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-039-Q1-E1-H2

<400> 2002

gcgtccgacc acacgtccgg ctgttcagcg ccaaactgac gacgtcttcc gaaacctcag 60  
tttacagctt gtgcaaagag gacaatagct tgggtcttctg tagcttttta aagcactctt 120  
ggtgtgcgct cagtgtctatt cactattgct ttgggtgacc agagagaggt acattcaaac 180  
actccatttg ttacttttat agagaattac acgcggagca attctgcaca agcggagaaa 240  
gggaagaggc aggcattcaa gccaacagct actgactcgt cccaggctta gcaaaggaaa 300  
aaatcccgac gagtactata catgtttcga tgcagagttt ggttctggct gtattttgga 360  
tagagaatta gaatttgtac tcactggcat taatacttta cgatgtcacg tgacatatgc 420

<210> 2003

<211> 330

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-039-Q1-E1-H4

<400> 2003

aggaatgaac taaagtcaac gaaaagctcc ttgagacttt gtactggtgt gtttgttccc 60  
aanaatagta attttctgtt agatacgagg cacgtcctc tagttggggc cggttcctgt 120  
gtccacctaa gagcggttcc tagaaaacta gcagaaatta cttccttgag aagtgacgct 180  
gctgtgagcg cttctgttac atatggagaa gaaaattctc cacaactgtc cgtttcggac 240



cttgtcgttg gagagacgta tactggaaca gtgaagaata tcaccaacta tggcgccttt 300  
gtggatataa gagcaaacia aatgggattg 330

<210> 2004  
<211> 447  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-039-Q1-E1-H6  
  
<400> 2004

gacccacgac gtccacgaga gagagagggg atgagtaccc cagccagacg aagattgata 60  
agagacttta agaaactaca acaagaccct cctagtgggt gtagtgggtgc tccttgtgag 120  
aatgatatta tgcgttggaa tgcagtcac ctaggccag aagatagtat ctgggaaggt 180  
ggcacgttta aactaacttt tcagttcacc gaagactacc ctaacaaacc gcctacggtc 240  
aagtttgtgt ccaaaatgta ccatcccaat atttactcgg atggaagtat ttgtctggat 300  
attttacaaa atcagtggag tcctatctat gatatttcag cgatattgac ctccattcag 360  
tcgcttttgt gcgacccgaa cccaactca ccggetaatt cggaagctgc taggctttat 420  
cagganaata gaagagaata cgaccgt 447

<210> 2005  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-039-Q1-E1-H8  
  
<400> 2005

ccaccacgc gtccgggtg actatccttc tcctgcacta tgtctgcgaa tattctgaat 60  
aaagtagcca agtatgccat tgttttggga gttgctgggt ctgccttgca atcttcggta 120  
ttcgttgtag ccggtgggtca ccgggcagtc gtgtttaatc gtttcacagg agttgaagaa 180  
cacgtacgtg gggaaggaat gcacttgaaa atcccgtggg tacagagacc tgtcttattt 240  
gatataagaa cgaggcctag atcgatcaat tcggtgacag gaaccaagga cttgcaaagt 300  
gtgaacctcg tgctacgtgt gctatccaag cctaacagag atttggtacc acgaatatat 360  
tctagattag gacaggactg ggacgagaga gtg 393

<210> 2006  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-A11

<400> 2006

```

agcgattcca tgttgaaaga gggtagacgt atattgtccg atctcaagtt tcaggtgctt   60
caagatggaa aacctcaggt gataacttcg gatcaagtat tcggaggaaa gaaagtagta  120
ttgtttgggt tacctggtgc ctttactcca acctgctcta ggcagcacct tccaggcttt  180
ggacagaagg ttgatgaaat caaatcgaaa ggagtagata cagtcgcttg tttagctgtc  240
aatgaccctt ttgtattaca tcagtgggca gagtcacagg gagtggcagg aaaaattctc  300
atgttagcag atggtggtgc gcaatctgtc aagaaacttg gactggatat cgatactggt  360
gactttggtg gtattcgttg t                                     381
  
```

<210> 2007  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-A4

<400> 2007

```

aactcgtgaa acttacagtt ggtgtaggat tgcctaaagc aaagcgtgga gattggctta   60
tggagaaact ctcagaaata ggcgttgata cagtaatacc tattcattat gaacgaacaa  120
attctgaacc ttacgaacgt gatagaaaac aacggtggca gaaaatttgt atctccgctt  180
gcaagcagtg ttgccgcaat cgctgatga agatagagga agagcaatcc tttcaaaata  240
ttttatccaa gcaacaagtc tacaacact gggatcaagt gtatgtagct tctatggagg  300
caactcgtcc aatgatactt cctccagtaa aaagtgccag tatacttgct ttaataggtc  360
cagaaggtgg attgacacct caagaagaaa aaatagcttc tgatgttggt gcacac     416
  
```

<210> 2008  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-A6

<400> 2008

cccacgcgtc cgaatggaga caaaaaggta taccaattta ttcattggcgc caatggaatg 60  
tttgtgatta cgcacgaaaa tcaggctgtt ctgtagttgc taagacacgg tgccacatac 120  
gactattcac atccacctac aacattccaa cgcagtcaat acacaggtaa agagtatgta 180  
tatcaatttc atattacctt gattcttctt cgagaggaca actcatgcat tggataaatg 240  
gaatattggg tattgataac tccaattgta aaaccactac aatccatata gtcagcaatt 300  
accaaaaaca attcctgtga caaacaata gaaagtgaat ctcacctctg accagccatg 360  
gcactatgta cggctga 377

<210> 2009

<211> 416

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-B1

<400> 2009

ccacgcgtca gggtaagagg actcccaaact gttcgaagtg gttatagtaa aaacaattgc 60  
cgacatcagc gctggaatct gtgtcgcagg catccacaca tgggaactgg gtgtagtcga 120  
cgcataataa atcaacatgt agggaggatt gggcagtgtg cacggaagta tgggacaata 180  
ttcaggaatc tcgtaagcaa ggcaggaaat aaaaggaagg aatacacggg agatgaggca 240  
aaaacacata cgaactgcaa cggtttaaga tctcttgtaa tcgatgcact aaaagactga 300  
atgattaagt caaataggag tcattctctg tagaggaata aaggcacgag agaaaaacgc 360  
aaagcatttg atggagatct ctctacaggg gtggatcacg tgaattaatc ggatat 416

<210> 2010

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-B10

<400> 2010

acgcgtctag caagcgtctg atacatatgg ccacgcgtgg tcaagatggc cttgtgcaag 60

tcaagaaggg atatgagtag tagagagatt gcaaggagat aatattttgg atagagcact 120  
 gtcacaatca ggagatgtat ttcagtgcct ttgcagcatc cagttgttgg tgaatgcata 180  
 cggagctatt agaggaaata ttacttgtcc agaatgtatc gaattgtgtc gtctagtatc 240  
 tggacatata gcggttttgg tccgatgaaga tttggatgac ctacgtttgg aaactatctt 300  
 gggagcacta ttgtgtactt gttattgtga gtggaagcgt tttgaatgag acttgggggt 360  
 acaagaatgg aatgaattgg ggaagatatc ttccgtatat ac 402

<210> 2011  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-B12

<400> 2011

ataccagtat cgatccagag gtaacgaagt aaataaacgt ttgaaaggct tcaattatga 60  
 aaggaaaaac aagtgtacca cgggtcaattc atcaacctca agctgtacaa cactaactgt 120  
 gaaaatgcag taaactagca gtaggacgga aagaacccat aattcatgac tagataagtt 180  
 tacggaggag agagaatcat gaagtagagg aggtggggta agagatgaga gaccactgca 240  
 tgaggataag gaatctaact gagtaaggaa aataagctta agctagtttg gctggggaag 300  
 taaagcctaa gaaagagtaa attacgaag caaaggcatg agagaagtat aatagcagaa 360  
 gcatgcttga agaaaaagaa agagatttca cgaaagga 398

<210> 2012  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-B3

<400> 2012

gccggcccac gcgtccaccc aagcgtccga tctattggta ttggtattgc acacacttat 60  
 catgaaaact cctcggcatc tttgttaacg agaggcattt tggatgccat ctccggtgga 120  
 attttaatat acacaggatt ggtggagttg ttgacttatt ggtttacgcg caactcgaac 180  
 tttttaagac gcaaagccat atctatTTTT agtattgtgg gatttgtctg gttaggagcc 240

atctgcatgg cgattatcgg agcgtgggcc taagaataaa atttgtttga gacgtcgtgg 300  
 tgcagatgac tcgcatgttt ggtagttggt tcaagtttga caagagaaaa catttgttgc 360  
 tacttcttac aaataaaaaa gttcacggac aaattgtaga tt 402

<210> 2013  
 <211> 191  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-B6  
 <400> 2013

tggttcgtcc tggcggttgg ttgcattggc ggatagcttc acgccttcac tacctcagtt 60  
 actgccgtcg aggacagaac tcgtctgtgg atgcgacccc aggtggggcg tcccatgctc 120  
 agctgatcgt acaggagggc tcatccgagg tgtcagctcg tctccctcct gcaggttcgc 180  
 ccacaccccc t 191

<210> 2014  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-B8  
 <400> 2014

cccacgcgtc cgggcaaaag agcgatgcaa agtacgacca acttggggcg tcgtaccaac 60  
 gaattcttat cgatagcaca aaactatcaa caaagacaag gaatagaaaa ccagacacaaa 120  
 agaaagggag gaaatggtgg caagtcggcg ttcaccaaag aagcgataag tattgcacaa 180  
 ggaatagagt ccattttcaa gaatttagaa aagctgacaa aagcatgtca gaaaagtagt 240  
 ttatttgacg acggttcttc ggaaattcaa caattgacgt ttctagttaa acaacaacta 300  
 cacgaactga acaaggagtt ggaagagttg gaacgcattc atcgacaaca aagaaatggg 360  
 tatcataaac aagcaatata gcacggagag tc 392

<210> 2015  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-B9

<400> 2015

ggccgacgca cgcgtccacc cacacgtccg agacagatgg ccaacgctgg tcaagatggc 60  
cttgtgcaag tcaacaaaca tagaaaagta aagagattgc aagaagataa tattttgaat 120  
agagcactat cacaaccagg agatgtatct ctgtgctttt gcaacatcca gttgttggtg 180  
aatgcagaaa gagctattat aggaaatatt acttgtccag aaagtatcga attgtgtcgt 240  
ctattagctg gacatatagc ggtttggttc gatgaacatt tggatgactt tcgtttggaa 300  
gctatcttgg gagcactatt gtgtacttgt tattgtgagt ggaagcggtt tgaaggagaa 360  
ttgggggtac aagaatggaa tgaattggag aagatatctt ccttagata 409

<210> 2016

<211> 386

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-C10

<400> 2016

acccaagcgt ccgcccacgc gtcagcccat gcgtccgaag aacaggcacc tttgaatatt 60  
cagttgacgg gataagaata tgaagaagac tatgtggaag gcattctatc tagatgagag 120  
atagtttaga tttgtgtact agggtcgtgc tatatttaag tgtttataga gatgtgtgtg 180  
tgtgtatgca agtatgatag cactcgaagt ctcccttgtc catataaatg agtttcaacg 240  
cccagatgtt tgatactcat agtctatact gtctattatt gtagatctag ctgttacgga 300  
ataatctacg gacgtgcatg cataaaacgt gccaggctaa ttgatgctat tttgaacagg 360  
gacacctgct ccactagatc catact 386

<210> 2017

<211> 99

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-C11

<400> 2017

cacgcgtccg attgcataga tagatggccg gttattttacg acatcgtgta cacgcgcagc 60

ttcgtaaagg tctcaacggg cgaattgcgt cgtgtgtgg

99

<210> 2018  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-040-Q1-E1-C12

<400> 2018

gcgtccatgc caaattactg antcntatca attgtattcg ggttgcaatg gtggaaacgc 60  
ttcttatgga cttgccattt gtgctgaaag aacagcggta gtaaaggctg taagtgaagg 120  
tcatactcgt tttcgagcga tagcaatatc tacggatgcc gttgggcaag tatggccttg 180  
tggtgggtgt agacagtttc tatcagagtt tggaaacttt ccagtgattg ttatgcaagg 240  
aaataaccag ctacaagcag aaatgttaca tgacttgta cccaaaagct tttccaagtc 300  
cgatttaaaa acaatttaag tcgtcctctt ttggcgcaac gcattttttt gtgtgttttt 360  
ggaattttcc atcgcgttgt gttggtggga ataataaaaa ct 402

<210> 2019  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-C2

<400> 2019

accacgcgt caacacagga tcgacattcc gtacgttggt tgctgctctc gtatttcac 60  
aattctttga aggatttgct gtcggtacta ctgtttccga agcccagttt ggcacttgga 120  
ccactatagt aatggtactt tgctattctt tggaaactcc aatcggtata tctattggta 180  
ttggtattgc acacacttat caggaaaact cctcggcac 120  
tggtatgcat ctccggtgga attttaatat acacatgatt ggtggaattg ttgacttatt 300  
gagtttacgc gcaactcgaa ctttttaaga cgcagagcca tacctatttt tagtattgtg 360  
ggatttgtct ggttaagagc catctgcatg gcgattatcg gagcgtgggc ctaagaataa 420

<210> 2020

<211> 248  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-C3

<400> 2020

cccacgcgtc cgagaatttg ttgattatga caacaaacga agaatgactt ttcgttcgtg 60  
tttgactgct tttttcgtcg gactgagaca tgagttggac tgagtcaacg acttttatct 120  
cgacatagat gaggagctta ccatatcgga tcttattctg aaagttgcaa ttgacgacta 180  
catcttagca ctgagagtga gtacgggcga taggagtcac agtggggaga actcagtgat 240  
ttgcaggg 248

<210> 2021  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-C4

<400> 2021

acggacgcgt ggggcgtcgg ttgtgagaag tgtcgattat ggggaaaact tcagtttctt 60  
ggtgtcggaa ctgcgttgaa aatactatctt gatgatcatt tgacatttct tcaacacaat 120  
gaagtgaact ccttggtgaa tgtgttgat aagctttcta ctagtgtggt aactattgca 180  
tacatggaac gtctccttgt gttgcaacgt attcgatact gggtgttggt tgccagttgt 240  
atgatgggtg tggctttggt atttatgttg atgtttcgac gttctttttg ggagcgtgat 300  
gagttgtatt acaaggccaa atctgtttaa agtcaatgtt gctatttgta tttgaaaatc 360  
tttttttcat tttggaatat gctggtacta ggtgtgtgtt gttgtatcga gtgacatgta 420

<210> 2022  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-C5

<400> 2022

gaccacgag tcagcccacg cgtccgattt aaattagggc aagagatgtc cagcagcagc 60



ttctatgact agtcgctgt atacttttga tacatccaat agctgggtcac cttattgtgc 120  
 ctttgaatgg tatagtttca taaccaaaaa agcttattta tgcaagtctt tcatttttga 180  
 agtggttggc gtgggtcatat cgggtggagcg caagtcggac tcgatagagt gtctgttaga 240  
 cgattctttg cagttgacca ctttttgttg tcttaaaaaa gatacatacg gattagaaac 300  
 tatgttgagg ttgggtgaca atattcaagt gatagggtcac ccgatgggtt ctcaagtgcc 360  
 taccttgaac gcgggttcaag taacggtgca taaagctccc aactcggaat gcacgtattg 420  
 gcttga 426

<210> 2023  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-040-Q1-E1-C9  
 <400> 2023

gcgtccaccc acacgtccga ccggaaccca gtaattgctg accgagacac gaaaaaactg 60  
 agtatcaggt aagaatacat ggagtatatc acgaaccaca catgaatgaa gtcacactaa 120  
 gagaacgagt agagtgcatt ttgcaagat ttacttcaa gagaacagtg taatacgcgt 180  
 cccttatgca tactgtccca ncaatctcac agaggcagcc gatactgtta caccagctat 240  
 cccgatacca cccgtgctc attgatcata agctgtccct ccgacgtcaa gctgaaccac 300  
 tatctctgga taaccgattt ggaaggataa ccataacggg tgaaaggcca atcagtgcta 360  
 ttgagaccag gtacacctcc agagctacaa ccat 394

<210> 2024  
 <211> 266  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-D12  
 <400> 2024

tggaccgtga aagagctcgt gtttttcgtt cgactgggtac tggctcgctt cgaaaccatg 60  
 accctttcct catgttggat gagttccgtg tccatgcac agcatgtttt cctgaccatc 120  
 cacatcgagg gtttgagact gtcacttata tgtttgacgg ttattttaag catcaggata 180

atcatcgata ctctgggagtt atagggccag gtgatgttca attgatgact gcacgtacag 240  
gaatacttca cagcgaaatg cctcaa 266

<210> 2025  
<211> 347  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-040-Q1-E1-D4  
<400> 2025

acccacgcgt ccgcccacgc gtccgcccac gcgtccgcgt tgttggaat gtttgcgaga 60  
atcgatgcgg tggatatgac aactttgaaa cgagttgccca atcgttatat ctatgacaga 120  
gatcctgcag taccggtaat gggtcctatc tttacccttc ccgactacaa ttggattcgc 180  
cgaagaacat tttggaaccg ttattaaaag atgatgtgtt ggagaatggc acaagagttt 240  
acaagtcata atataaatct agttgggtggc acaagttgtg aacaacgtgt atatttcgta 300  
tttataatat acacagacat gaagaagttg aaaaacagaa caaagaa 347

<210> 2026  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-040-Q1-E1-E11  
<400> 2026

acgcgtccga gtggacgatc cgcagacgcg tgagcgaagt gagagttagg catacatctt 60  
ttcgtttttg catcattggt tgtaactgct aaagacgcag tgctcaagag acttagagtg 120  
aagccgaacc aaacgagcta ggttttgctg tgacagagcg ataaggaagt tgatgtggac 180  
agacgtcttt tgttcttttc actgcccac aagtgcaaaa gagatccgct cctgccatat 240  
gacaaaacaa ctagtcactg agtacaccgt gcgtctgcgc agggcattct agcagcacta 300  
tactattcat gagccagtac aatactacgc cataacagcc tcgttctcag aatagtagaa 360  
tttttctgca aacaagcttt gggg 384

<210> 2027  
<211> 405

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-E12  
 <400> 2027  
 atcctacgtc caattcacat catggacaac ttataagctc tgatggattt gaaacgggag 60  
 ttgcagggttc cgggtgatatt atttttgcat attctggaat tttcgtattt atcgaattta 120  
 tggatgaaat gaggaaacca aaagacttta acaaacttat ttatacagcc aatgctattc 180  
 ttttcttttg ttactcattc gttggtatct tagggttatgc tgtgtatggc aagtctgtgg 240  
 tgaatccaat tacttctgct ttaagtgaag gagtgatgaa aagactggcc aacgcatttc 300  
 tttggttaca catacttgcc gcgtttgtta tacacggttt gattcttaat cgtgctatag 360  
 ctgtccggtt ttgtaaagca tatgtggatg attttggttg cgttg 405

<210> 2028  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-E3  
 <400> 2028  
 actcatttgg cacacgaaac tgaaaggagt gagcataatg ggcaatacta tgctttcttt 60  
 cactcgagcg attcctacta tcctatcatt gtcgcagcca ttcagctttg gagttcggac 120  
 ccttggagtc ttttgtcgca acggacattt gatggacttg attcattaat gtttgtttct 180  
 gttgccgcta aagcctactt gagggattca aagttatgag ggactgacct tttctgtttg 240  
 aactagcagg attgaaaact agtttttctg ccagatccaa ctcatatata ggaataactc 300  
 caaacttggg aacacactgc tctattctca aaagatgctt taagagttaa tcatagatca 360  
 tatgtatttt gctccagtga ggatgatggc tactctaaga acaactttca atgagtcaat 420  
 atatct 426

<210> 2029  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-E4

<400> 2029

atcgacgtgt tgttttaaaaa acctaacgtt cgccttcgtt ggaagcaagt tcaattgggt 60  
ggagatggga acgtccaaga ataataaacc aagcaacaag ccaaagtcct cctgggtccc 120  
ctccggggccc tgtggcaaac aacccgtgat actccttaaa aaagtcccct tccaatgcag 180  
cactgggtcg ttctcatcgc tccgacaatg ggaaatccaa gctgaagaac gcaatcgaaa 240  
agctaagcag attctgcaac ttcttcgtc ttatcgtgtt gctatcggtc cagggttctga 300  
taccgggtgcc gtagaaatgg cgctttggag cttgttaagg ccacgtcctg tagatgtttg 360  
ttaatgggag t 371

<210> 2030

<211> 386

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-E9

<400> 2030

gcgtccagtt cagacagtgt agagtcgcac aggtcgattg ccgatgaaca aaagttgacg 60  
tttcccttat tatctgatga acgcggtaaa gtacgcaagc tatacgggtgt accaaagagc 120  
atgtttatta tgctgatcgc ctgcacttat gtcattgggtc cggatgggtat tgtgcgacac 180  
atctacaaca gtcaagtagg tttcgcatac cacgtggacg aggcaaagaa ggcgttggca 240  
aatatacgaa acgacgctca agcagcagaa gagtgtgcac acaacactgc tttgtggctt 300  
cattgatacg cagaggggtc cagtcatgtg cttcggatgg tgtcggaagt tactttgtta 360  
cttgtgttga cgaaacatgt gttttt 386

<210> 2031

<211> 325

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-040-Q1-E1-F1

<400> 2031

ccacgcgtcc aggcaagcgt ccgatgcagt ctattgtgtg aggccttcca tgtattccac 60  
atgcaagcga gtaaagtga cgcgagtata agaagatgtg taataaatgg cggtcctaaa 120

agtaaagatc catgtgtttc gtagttagta tacgtttgaa acgcgtccta tatgcaagga 180  
gcaatcactg tggcactgat ctttcgtccg actcagcgat caagcaatag atgtcagaat 240  
gcctaaactt gcactaggac agggacatac catacatctt gtcaagatga gtttaaggac 300  
gagagaaatt catggagtga atgaa 325

<210> 2032  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-040-Q1-E1-F12  
<400> 2032

accaatattc tacctaattc cgtggcgcat atacttcac ttcttccaag gcaattcaaa 60  
cgtattcacc ttccaattca actcccaggt actcatcttc ctatgcaacc aatacttata 120  
cttcctatga agctcctcca atgacttatt attatccaga atggtacttg gaatgttacc 180  
aatggtgttt cgaatgtctt ttgtgcaact tggagtacgg tttctattac attcaggaac 240  
caactectac tccctattat cccagctatt ccagttctta tccgatgtac agcagtagct 300  
attccagcta cagcagttac ccatcttata caaccagttc ttatagctca taagaaagga 360  
tgctgaatgg ttggtcaggc gaaggatgcc tttttgtatg g 401

<210> 2033  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-040-Q1-E1-F3  
<400> 2033

ccgggcccga ccacgcgtc acccacgcgt ccggcgtaat cctggtggta ttgttcgac 60  
gaaaacagtt acggctagta gtactacaaa tgtagaaca gatccatgac cgacagtttt 120  
gaacgagaag aatgatgtgg caaattgcac gcccgattca aacgcaaaca tcgagtcgca 180  
tgattcatac caacttaccg atgagaaaca ggagcaagaa gatgaagatt ccgacgaaga 240  
atcgcacaga agaaagagaa agagaattcc ttcattgggc cgaagtcata atttaaagga 300  
gttggtgcag cagcaagtaa gtgtgaatcc tgaggaaata tttccccgtg cagatacttg 360

tgatttggaa gaaatatttg gtcccaatga gaggaataag agatatcggg aagtggacaa 420  
aagttcggat ggatatcgaa taatatcgg 449

<210> 2034  
<211> 309  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-040-Q1-E1-G1  
<400> 2034

agcacaagtg tcagattcag gcagtgaact gacgcattat atcatagaat tacacatgca 60  
agtaggtaaa gcgaacgggt gattaaatac gtgattctta atgcgataac acgaaagcat 120  
agaagaatth aacaactggg tacagtaaaa accatagacg aagtatacgt gggaatctca 180  
catgaggaaa accacattcg gactgacaat tgggccaaat aagataagtc agcactgggg 240  
aatattgggc actgtactcg aaagtatgac acagtaatga cgattctatt aaatagaaaa 300  
cgcatthaaa 309

<210> 2035  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-040-Q1-E1-G10  
<400> 2035

acgcgtccac tttagttcat cgttgctcat tcttggtgca gatatgacag gtcgtggtaa 60  
aggtggtaaa ggtttatgaa aaggaggtgc aaagcgtcat cgcaaagtct tgcgagacaa 120  
tatccaagga ataaccaaac cagctatccg tcgtttggcg agaagaggtg gaggtaaaag 180  
aatctcagga cttatctatg aagaaacacg aaatgtcctt cgtgttttct tggaaagtgt 240  
tattcgtgat gcagttactt atacggagca tgctcgtcgc aagacggtaa ctgctatgga 300  
tgctgtatat gctctgaaac gtcaaggccg taccctttac ggatttggag gataaagcct 360  
gcttgaacaa aggggtgtttc tcaacacctt tcat 394

<210> 2036  
<211> 352

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-G12  
 <400> 2036  
 ggaaggactt accaaaataa ggggcattaa taagaaggaa aattggtgaa acttaacccc 60  
 cttctaaaca aaacttacca gaagctttga aaaaaagaga ctatatggac tgtatatgga 120  
 tatgtgaaga gttggagttg cagtcacac tacaaggaca accttttgag ttttataccc 180  
 tctttttctt tttactgtta ttgcgaaacc aatgccacct cgctcatttc ttgtggaaac 240  
 gttgtcccta ttcacaaaga gaaccaaggc ttatgacgct tcgagaaata gctctagctt 300  
 tgtgtagaga agactacgaa accgcatttt ccttggtgctg aaataccgat tg 352

<210> 2037  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-G4  
 <400> 2037  
 aggaaatgtt caacttgcct tcgttactaa attcgttctt tgctgaggtt tttgaattct 60  
 cgctgtgta cgatgcaagg gagaagatat tgaactttga ggtgacagac tctcatggca 120  
 tatcttttcg agaccgaata tctattttgt atgtgactcc attgacaaga gaggacgcga 180  
 aagctaatag cgctccagat tttgtagatt ttcttacttt tgacaacttt cctgggttaca 240  
 tgaagtctta tatagatgta tggcgaaacg tacgaagcag gcgcagctca tcaagtcgaa 300  
 gtctgtcaa acggataaaa tttgaaggaa gttgagagtt gaatgtcgac gtatggatgg 360  
 cctacccgt cacaacggtc cttatttttg taaaagaacg actcacctat tatatatagt 420  
 ggaataaaca 430

<210> 2038  
 <211> 297  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-G5  
 <400> 2038

acccacgcgt cagcccacgc gtccgcccac gcgtccgccc acgcgtccgc ccacgcgtct 60  
 gcccacgcgt ccggaagag gcaaatacgg gaaagcagta aaagaagaca gagacacgaa 120  
 aaaacttagt atcaggaata aaagagggag tagatgagga atgaaagatg aaggaattaa 180  
 gagttagaga tggagtcatc tgaacgaagg caggcttgta gcttaataag acactttatc 240  
 ctcgtactgt tattgctaata gtcatgccaa ctcgctcatg tcttgtggag acgttgt 297

<210> 2039  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-G9  
 <400> 2039

gggccgagcc acgcgtccaa tttcattcat cgttgctcat tcttgttgca gatatgacag 60  
 gtcgtggtaa aggtggtaaa ggtttaagaa aaggaggtgc aaagcgtcat cgcaaagtct 120  
 tgcgagacaa tatccaagga ataaccaaac cagctatccg tcgtttggcg agaagaggtg 180  
 gagtgaagaa aatctcagga cttatctatg aagaaacacg aaatgtcctt cgtgttttct 240  
 tggaaagtgt tattcgtgat gcagttactt atacggagca tgctcgtcgc aagacggtaa 300  
 ctgctatgga tgctgtatat gctctgaaac gtcaaggccg taccctttac ggatttggag 360  
 gataaagcct gcttgaacaa aggggtgtttc tcaacacett tcatcg 406

<210> 2040  
 <211> 127  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-H11  
 <400> 2040

gcgcatgtcg agttgcgtgt ttcagttttt cgggtccgtg cagcgcttcg ggatcatttct 60  
 tcgcatcggg taacagttca gcaactctgg ttgcagaaga cagcgtgggt ggtataagcg 120  
 atccac 127

<210> 2041  
 <211> 376



<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-H12  
 <400> 2041  
 atattatcgt gaaccaaatt catttatata tcattggaga atgagtccca aaaaggaaac 60  
 accgcatact cccataggag gctatgcaaa agctgtactt gatagcattg ttgctctgaa 120  
 ggagaggaat gggtcctctc cacaggccat cataaaatat gtcaaggctc acaatccgca 180  
 gcttccggaa gacaaactta aacttcaagt aaagtttagct ttgcgtcgtt tgttaaagca 240  
 gaagcttatt gagaagggtga aagcttcgta taagattgct agcaagagta gtagagttaa 300  
 gaaagcccca aaagaaacaa aagcgaagcg agttgcgaaa acggttcaaa agaaacgagc 360  
 gaacgatttg caagag 376

<210> 2042  
 <211> 212  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-H4  
 <400> 2042  
 atggtagaca ctaagcttaa ggacggtgct attgctgccc tttggacttg cgcgaattt 60  
 ctctatacag ttgtgttagc attttcagca acagtaattg gacttgatgg acggcacgca 120  
 gataacatat ggaacgatgc cccatattat catggaaaag tgggtgaactt ttgtgcatat 180  
 tcggcttcgt ctgtttttga acgtggcaac ca 212

<210> 2043  
 <211> 188  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-040-Q1-E1-H8  
 <400> 2043  
 ccacgcgtcc gccacgcgt ccgcccacgc gtccgaaaaa aaaaaaaaaa aaaaaaaaaa 60  
 aaaaagaaaa aaaaaaaaga aaaaaaaaaa aataaattta aatttaaggg gaagatgaat 120  
 ataatagagt gatttataaa gggtttaaag ggtgggtttt ttttgagggt ctgtgtttga 180

gttttttt

188

<210> 2044  
<211> 201  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-040-Q1-E1-H9  
  
<400> 2044

tccgggttgt tgtttcgttg ctgacgatat gcaccgtttt gttttcgtaa gtgggtcacc 60  
gacgcttcat atattcgtag attggaatga attataatca gcgaaggtct ccttgatact 120  
ttgttctggg gtgtgtgttc tctatagtag taattttctg ttttactatg aaggacgctc 180  
ttttagttcg gcctaattcc t 201

<210> 2045  
<211> 362  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-041-Q1-E1-A1  
  
<400> 2045

agatttggtt acgagagaaa gctgtacaca gaggagagtg tattgcgggc tcatagtaga 60  
aatcctactg gcgtatttga agtgatagag acgaacgacg ggaagatatg tgccgtattg 120  
aaaaccgaca catgtacact acgagagagg agacccatat tgtggtgaga taatggacga 180  
tgaagtacta agcaagatga tatggtatct gcagtagaac atatgaaagc agcagcaccg 240  
gctgttttagc aaaaacacag cactctgcag aaaagagatg atgtatagta tatagtgtgc 300  
cggctgccat atagtagaga agatatcgat gaatgtgaac gcgagtaaaa tatggtgtat 360  
ag 362

<210> 2046  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-041-Q1-E1-A11  
  
<400> 2046

gtccacggat ccatccaagg atccatgggc ggacgcgtgg gcggacgcgt gggcttcctt 60  
 ggtcagttag tgaagaagac cttcgtgaaa ctttttccaa atatggagaa gttgttgatg 120  
 caagggttgt tgttgaacgt gaaactggtc gttcccgtgg ttttggtttc gtatcctatg 180  
 cagaaggttc ctccgtagac gaatgcattg ccgcactgga tggcaaggat atgcaaggac 240  
 gcactattcg tgtgaacaag gcaatgtctc gtgaacaacg cgagagtgga ggagactttc 300  
 gtcgcgggtg tcgtggacga tacggagggt ttcgttccgg tccttatgag agacgtgaac 360  
 gtgactctga tcgtagaaga gatcatgaca ggagagataa cggccat 407

<210> 2047  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-041-Q1-E1-A12  
 <400> 2047

aaggaanaca cagtaaataa ggcgagaaaag cataggaagt gaaacggatt aggaacccgt 60  
 gtagtctatg cagtaaaaga aagaatgagt aagaaaaaag ggagtcattc caccagggga 120  
 gtaaaggcgc aagaaagaaa cccaaagcaa ttgacgggaa tcggaaaaaag ggggtggatca 180  
 cgtaaattaa tccgataaac cgagaacctt acctctccaa gaagggtgtg cacggctgtc 240  
 gaaagaacgt gctgtgaagt gagagaacgt acgagaaaagc caagtgagga aaagaaggca 300  
 agtagagggc ggcccagaaa aggaaagggc gtaagacgtg atacagagta ggaagaaaag 360  
 agaagagagc tagaaaggag gtaaaagaag agtaaaagga ct 402

<210> 2048  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-A2  
 <400> 2048

gtccaagtgg gacaacgaga ggcagagata cccctcgaag aatgtctcgc tcacgagact 60  
 gtgacatctt cacatcatat aaaagatgat agcccggaaa caaagccaaa ccgctttgca 120

attactggcc acacatagga cgaaatggct acagagctaa gcattgcttg atgacgacaa 180  
 caaccggctg cacacgaaaa gattacttac ttccacggtc tttggtaacc ctagacattt 240  
 tatatgggtc cttgcatcat ttgctaccat gggatgaatt ctgtatggta attaccagtc 300  
 tttgataagt ggtgctggta tttatatgcc agttgacctt cacattgatc agactagaga 360  
 taacatgggt actggcttta tgccac 386

<210> 2049  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-A5

<400> 2049

gggccgaccc aaacgtccaa cccctcctg gtgctgctgc agctatagaa gaagcgatca 60  
 aagccgaagt tggaattatt gtctgtatta ccgaaggaat tcgccaaaag gatatgggtc 120  
 gagtgaagac tcttttgaat gaaagcacga aatctcgctt aattggcccc aactgcccag 180  
 gcattttgaa gcctagttag tgtaacattg gtattatacc aggttatatt cattcaacgg 240  
 gttgtattgg agttgtttca cgttcgggca tgcttacata tgaagctgtg gatcagacta 300  
 cgagacatca acttgggtcag agcattgtta tcggaatagg tggatgatccg tttcatggaa 360  
 catcctttat ggactgtttt gatatgtatt tgaacgattc gcatacgaag ggcacgttta 420  
 tgattggcga gat 433

<210> 2050  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-041-Q1-E1-A7

<400> 2050

gtccaccac gcgtccgaag atgcaaagt ctttgaaaga aatagccgac tatatggtga 60  
 cacctggaaa aggtatttta gcatctgatg aacctccga gttgttagaa cccaagtttc 120  
 gagctttggg agtggagaa aatgcagaaa cgagaaggac gtggcgtgaa atattatatg 180  
 gaaccaaagg attggagcaa tatgttgcag ctgctattct gcatagtga acttttgaac 240

aacaagattc atccagtggg aaacgtttgg tagatgtgtt atcagacaaa ggtatattac 300  
 ctggtatcac ggtggatcaa ggtttcgata tattacctgg tacctcncaa ganacattca 360  
 cgctaggatt ggatactttg agcaatcgat gtgaganata tcag 404

<210> 2051  
 <211> 264  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-A9

<400> 2051

aacagttgta cattcaacat catcaaatgc caaagggagg aaagaaagat tcttcaaaga 60  
 aagaagccac aagtaaacct gcagcagcag atgctacaaa gacgacagaa aagtctggtc 120  
 cggaagccaa gttgaagggg actggtgcaa agaaacaata aaaagttgac tatgcatgtg 180  
 cagtcctgtt atgttttgtg agttctgttt gatagtttcc agctattctt ttggtagtga 240  
 ataaagagaa aattttttat attt 264

<210> 2052  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-B10

<400> 2052

acccttcgaa tgataatctt atggaaccaa aactagatat tgcaacggaa caagagactc 60  
 ctttaaccag cacggatgta ctattgcctg tatcgctgaa ccaacaggaa aacaagactc 120  
 tccaaaactg ggcgcataatc gagtcttgta aaccaaacy atatttttgaa cctgaaaccg 180  
 tagaagatat cgaagtgatt gtagaacaat gtcgctcgaa taattggaaa ctaagagtat 240  
 ttggagcagg tcattctcca aataatatag ctatgaccaa cgattgcata gttagtttaa 300  
 aaagaatgaa tagaattgaa aacattgatg aagaacaaaa gacggtgact gcgcaagggtg 360  
 gcacgcttat caagcaactc aatcaagagc tggccaaaca caacttgggc ttatccaatt 420

<210> 2053  
 <211> 280

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-B11  
 <400> 2053  
 gtggaagaag atggtcaaag agatgcaaca accggttgct tctcacgctt tacgtgcata 60  
 tgtccctggc aagtttactc gttccgtact aagtatcttg tgcattataa gtgcagggtg 120  
 tattggtgct gtgggagttg tttgttttat attctgtagt atcaatccga gaaacgttat 180  
 catcaatgta tatctcatta tatttgcagt gttgataatc ctttccgagt tgggtttcag 240  
 ttttctgttg aagcgggttg cgtttttaga tacgtttttt 280

<210> 2054  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-B4  
 <400> 2054  
 cgcgtccgac aaaaaaaaaa tcaataaaaa taaaaacata atcaaggctg acgggctaaa 60  
 agaggcagac tttcataggg tcaatgctac gtgcccggtc atgcaaagtg aaagctcttt 120  
 taaagtgatc gggaatttca tttcaacggc cgtccttgga aaatgccggg attgggaaaa 180  
 gttagccctt tgcaaggtta agccccttcg ccaacatggc ccattcccaa actggtctaa 240  
 tagtttcccc gttctcaaaa tttgcccttc ccaactgttg atcggacaga gtcgattaat 300  
 gggacattcc ccgtttcggg cttttaagct acgccccttt 340

<210> 2055  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-041-Q1-E1-B5  
 <400> 2055  
 ctttcgcata gtcgggaatg ggtcctcggc gtcgtatatc gatactagtt gactgccctc 60  
 cactggccca aggtttggca angaacccca gaacctagat taagttactt taaaagaaac 120

ttgcaaagta ataatttcct ttcgcaaaat atctgtggtc acaatggacc acatccttgt 180  
 gttttgcccg tcaactgtttt ccacattggg tcaatggcgt cacacttggt acaagtgacc 240  
 cgtaagggtc gtttcttgaa ctgcacttga acccaacgcg atttaaattg acgggatttg 300  
 gaaaccacgg taagttattt gtcccataag caaaacgtcc agatgattat tggtcgttgc 360  
 tactcctgga taaaacatga ggaaaactac accgccactg caaagggcat 409

<210> 2056  
 <211> 353  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-B9

<400> 2056

tgttgctgcta tacccttttg gaggaagctc atggaaggaa aggatcgtcc aagtttatgg 60  
 aaaaaagctt tgaaccgtga tactgtgtgg gaaaaggacg agatattaga tgtgctgttt 120  
 tggatccgcc acgtggtagc tctgttgata ggttgcttat tcggccttct caaattaact 180  
 ggcttaccag gctttattct ttacatatct atttggttca ctattttctca ggcgtaagtt 240  
 tcatgccttg tagaaagaaa gaataaact actcgttctt ctttctagtt atttcaagtg 300  
 gtttttagat ttagacgaag acgactttgg tggttgggga accgtacaac aag 353

<210> 2057  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-C11

<400> 2057

gtggaaaact ggccttttat caattcttcc ttcttaatat cacaacaacc taatagggag 60  
 atatagagtc acgcaaatac gtgttgcaaa ttgggaagat attcaagaaa aaaaagttgg 120  
 gagagcgtgc gcaacgcttc ggctccgctt cctttaggaa tgaagaatga aactcgcgat 180  
 gaacatacaa gtactccaac gaccaccgca gaggttctta ccaaccgcca acctatcata 240  
 caccgacgtt ttacagcggc gcctttggaa gatgacgcca tgatggaaga cgacgatcaa 300  
 gtcgtttcta ctagtatctc ttcttgata tagcaacaaa gcgctgttgg acaaaagtcg 360

gatgcaactc ccaagttgct ttccctcggt gtcgttattt 400

<210> 2058  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-041-Q1-E1-C12  
  
<400> 2058

ctgcctttta gcattcttct tcttatatca gacaacctat aggagataag agtcacgaaa 60  
tacttttgcaa attggaagat attcagaaaa aaaagttgga gagcgtgcgc aacgcttcgg 120  
ctccgcttcc tttaggaatg aagaatgaaa ctgcgcatga acatacaagt actccaacga 180  
ccaccgcaga ggttcctacc aaccgccaac ctatcataca cgaccgtttt cagacggcgc 240  
ctttggaaga tgacgccatg atggaagacg acgatcaagt cgtttctact agtatctctt 300  
cttggatata gcaacaaagc gctgttggac acaagtcgga tgcaactccc aagttgcttt 360  
ccctcgttgt cgttatttct ctatctcttc cgctgcattg ttttcttga 409

<210> 2059  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-041-Q1-E1-C3  
  
<400> 2059

aagcttaaac aaactagtaa gtcggttga atgttgcttt ctggagcgaa gtcgtcaaga 60  
agggtccaaa atgggcacca tcttctccca agtagcacia tcctttgcaa aggatatgtt 120  
ctatctcaag tcgcaagggtg aagaatggct agatgctgtg ttgcaagatt attcattcct 180  
tgctcgtgac gcccgcggg ttttaggtga acgtttacaa gcatacgaat cttatgaaaa 240  
ggctctatca gaacacaatg aaaggatgag aaaactggaa aatggtcata tgcctcctc 300  
cacgtcctcg caacacacgg aaaaccccaa ccacgggtgct acttctagta gtaagcagtt 360  
gaatgagtgc cgtcagttgt atgaacgagc ggcttatttg ac 402

<210> 2060  
<211> 409  
<212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-C9

<400> 2060

accacgcgtc cgcccacgcg tccgggttgc tcaaggtgtg aaatggcagt agttgaagat 60

aacagagtct ttgttggtgg tcttccttgg tcagttagtg aagaagacct tcgtgaaact 120

ttttccaaat atggagaagt tgttgatgca aggggttgtt ttgaacgtga aactggtcgt 180

tcccgtaggt ttgggtttcgt atcctatgca gaagggtcct ccgtagacga atgcattgcc 240

gcactggatg gcaaggatat gcaaggacgc actattcgtg tgaacaaggc aatgtctcgt 300

gaacaacgcg agagtggagg agactttcgt cgcggtggtc gtggacgata cggaggtttt 360

cgttccggtc cttatgagag acgtgaacgt gactctgata gtagaagag 409

<210> 2061

<211> 429

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-D10

<400> 2061

gttgagatgt tgtggatgag caaccacttg tcgttgcaag aaaccaagtc gcattttcgt 60

aaccgagtca atggactgat cgagcatatt gcgagtagct tgagggtata aagagagaga 120

gaatagttgg aagttttgtc ttttgaaata cataggactt gttgcgacag ggagctgaac 180

ccagtcggtg gaaagactat gcaggggacc ttgagttgag actcgctgta taaagtatgt 240

gtagggatgt tgaagagctt ataaccttgt cgtttgaaat acaagtgttg acaactcaag 300

gcaatctacc ccaaataatg tcggaaatag accacataga gacgtctgtg cagaaccgca 360

taggagagat taacgatgca ctggaaaaaa cgggtatgca cttgtctttt cacgtctgca 420

acgactcaa 429

<210> 2062

<211> 289

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-D12

<400> 2062

tggaaacaga ggtggtattg ccatggcgaa acatcacctt gaccttatta tgtgtcgaaa 60  
gcaacctgga atagccgtcg gaagactttg tgaaaagtgt aagtgttatc ttctctttat 120  
tttgttctcc tcatacttgc aagggtgacgg caaatgtgtc atatgtgact cttacgttcg 180  
gccttgtacc ccggttcgca tatgtgacga atgcaactac gggtcatttc agggacgttg 240  
tgtgatttgt ggtggtgtcg gtgtcccaga tgcttattag tgtagagag 289

<210> 2063

<211> 447

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-041-Q1-E1-D2

<400> 2063

attcaagggc cgnacgacgc gtccgggaca aagcaacaac gcgagtgggt gataaagcaa 60  
ctagccaaat atggtttaga acacgtcgac gagttgggtg actatctttt acagtgtgaa 120  
gataaagtta ttcttaagga ataccttggt ggtttattac ggaatgatga ataggccgaa 180  
gcacttggtc aagaattggt tgccaaacag gaagctacca acgaacaaac agatggaaaa 240  
ggaaaagaca caccaaggta caataagaaa gttcaciaag gtcgcaaaaa atcgtatggt 300  
ccgagcaaag atagttcttc cacggagaat gataacaagg ctagcacacc ttttatgcga 360  
aattgtttgt gctgtgggaa ggtaatcatg gaatatatca gtcgtttag tttttgtggt 420  
tggtcaccgg aagaagatgc tgagaaa 447

<210> 2064

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-D3

<400> 2064

cgcacgcgtc caaagaagat caaacagttg ccaaattgat ttgggacact ttgcatatag 60  
aaccactcaa tgttcctgag ttcaattctg gtcaaccagg atatgtaatt ccggtcaccc 120  
gagacagtat gattgcattt catcaaattg aaggaatgaa ggatgcacag aacttgtttc 180

gaagatttta cttggataag aatcgatttg actcgggagg agatgtcgtt ccgtaaagaa 240  
aaccaactct actcactcac atgtctatga cgttgcctcg ccggaaacca agtcattcgg 300  
atcaaaatat attcctttta cagtaccatc gatacgagca agtatctgat gagtcacttt 360  
catagcgtcc acgacgaaaa tatgatcacc ttgtttcact tg 402

<210> 2065  
<211> 457  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-041-Q1-E1-D4  
<400> 2065

attcaagggg tcgacgacgc gtccgcagct tacaagttat tggaagattt cttgcagaac 60  
gaatatagtc ctcatgctag aagaaccgct ggcattgtcg attggaacga ttcaaaagcc 120  
atztatgaag gagcaataga atattataca tctttgtctt ttacagctca agagttgcac 180  
tctattggga agaaagaagt gaaaagaata tcggaagaaa tcgatcaagt acgagaacgc 240  
ttacaacaaa cacaaggatc acttgcaccc tttattgccc aattacgaca aaatccacaa 300  
ctcttttgcca aagactcgca agatattata gaaacatata agaacatact ggataagatt 360  
ggcaccaatg tttcagatta ctttgccaaa cttcccagag cacgattgga actaaaacct 420  
atcgagtcac atcgagaana gtccgctcca cccgcac 457

<210> 2066  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-041-Q1-E1-D7  
<400> 2066

acggacgcgt gggcggacgc gtggcgacgc gcgtgggttt tcaaccgttg ttgttctgac 60  
aatgaagatt caattgttta tataatagcg atacaagggt gcgataaacg acgaatttca 120  
ggctctaagc tatccatgtt tttgcattgg cgtgaaaacc ttacttctca agtgacaaat 180  
gtatctggac gactcggaac acagtattag tgttctaagc gtcactataa gacgcgcgcc 240

gatcattcga ttttggcttg caagttgaat ttgtctcacc gagaaactcc ttcaggctta 300  
 tgcttccatt tgaacacttg ctatatctgg caacgtctga ataactgggt ttcacagtaa 360  
 agaagggtgc aagcttgatt tgatgagatg cataccattg ttgccgctgg acctgtagct 420  
 ctccaat 427

<210> 2067  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-D8  
 <400> 2067

agtacccatg agaagtcagc tacttcaact gtccaaagtg tttcaaactt ttacagaaaa 60  
 acaattttca tctagcgtct ccaagttcca gcttcccgat ctaccctatg actatggcga 120  
 gttggaacct tacatcagtg cagaaatcat gagacttcac caccaaaaac accaccaaac 180  
 ctatgtcaac aacttgaatg tcgcattgga aaagatccac aaggcagaag aagctggtaa 240  
 cgtgggtgat atgatcgcg tgcaaaagat gctcaaattt aatggaggag gtcacgtcaa 300  
 tcaactcatt ctttggcaca acttggctcc cgtgaataaa gggggaggta ctgccccga 360  
 tggagcattc ttaaaagcag tggaaaaaga attcggctca ttggacgctc tca 413

<210> 2068  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-D9  
 <400> 2068

tcgttttctt gtgggatggt ttgtctcctc atgcttgcg cgctcgctggc attggtcatt 60  
 cggttgggtc gtgtgccttt tctgtctggc cactcgcttg ttctgcatct ctgtctttta 120  
 cagcgcacga gttggctcta ttgggaagag agaagtgtat cgaatatcgg ctgaaatcga 180  
 tgctgtacga gaacgcttac acaaacaca aggatcactt gcacccctta ttgcccaatt 240  
 aggagaatct ccacaactct ttgccaaaga ctctcaccat attagacaga tatctgatac 300  
 catattggat aagattggca ccaatgtttc agattacttt gccacacttc 350

<210> 2069  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-041-Q1-E1-E10  
  
 <400> 2069  
  
 tgaactttgt tttggaactg tttttttggg gtttactcg tgtgttttgt ctttttaaaa 60  
 ctccaagaag actatttatt tcttgttatg tttgagaggt gtttctagag tgtgttttgt 120  
 ggacttggtg tactcctgtc ttggtgggtg gtgaatggct ctagtgacaa agagggttgt 180  
 cactttcccg ccattctcca cagcttcaac taccaacctg tatacgaca caactacaca 240  
 actatattac tacagagtcg tgggtgtaaaa cgacaagttg aatggttgaa aaggattggg 300  
 gaaaagtgga agactagtga gagagagcac ttgaaaactt gtatatttgt accccctagc 360  
 aactatttcc tcttgaagag attgcaagtt tgggttagta gacaagagtt gcaagtgtc 419

<210> 2070  
 <211> 335  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-041-Q1-E1-E12  
  
 <400> 2070  
  
 gtaaaagaag aaagagaaag gaaaaaactg agtaccagga agaaaagagg gagtagatga 60  
 ggaaagaaag atcaaggaag taagagtaag agaaggagta atgtgaatga aagcaggaaa 120  
 gtatttgaag aagagagtgt aaagcgcgta ccttttgcac aatgtcccag cgagtgaag 180  
 aggaagcata aagaaagaaa aagaagtagc caggtaagac ccgaagctag ttgatcttat 240  
 gctgtccaag cgaagtaagg ctgaaccagt atctgtggaa aaagatttgg aagttaaggc 300  
 aaaaacacgt gccagcagca gcggtaaaac gtgtg 335

<210> 2071  
 <211> 328  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-041-Q1-E1-E4

<400> 2071

aaccacgagt cgcgccacgc gtccgccagg aattttcatt ggtttttatg gacgttttgt 60

tactattgct tggttctatg ccatgtttat gatgcctgaa accaaagata agactttgga 120

agagattgat gctttgtttt ccatgtcgat gcctgattta gcgaaacata attgggataa 180

tgtgaagaag acagtggatg atctcttgca ttttacgttg agagaagttt ggaaggttta 240

caagtgagcg atgattgtta ttgtttgatt ttttgagtat tttacttgtt tggtacaat 300

aaaagcataa atgcgtgcat aacatttc 328

<210> 2072

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-E8

<400> 2072

acccacgcgt cgcgccacgc gtccgggaaa tgagtatttt cgcaataaac agtacaagga 60

ggcatgagag tgttatactg ttgctcttag taaagaaatg agtacagaag accgggcagc 120

gtgttttgcg aatagagctg cagcaaagct aaagttggag gactatgaag gggctttgga 180

ggattgttcc gaagctttga gcttgatga aaactatttg aaagcaaagt accgacgaaa 240

ggaatgctat ttgaaactgg gtcgttatga ggaagctttg aaagatgcaa aggcactaag 300

agaagcacia cagatatctt cggaagaagt acaacatata gaaaagttga aggagcgaga 360

cgatgaaaga cgtaagaag aagctattgc 390

<210> 2073

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-E9

<400> 2073

cattttgtag ttatgaaagg aataacaaaa tgctctctta ttgttctcat agttaccact 60

cttatggtaa ccacaacttc ggcagttttg ccgatgaatg acgaactggc tagagaaata 120

cgtagagctc ttcaatggaa ctctgaattc ctaagacaat tctcgacagg attcccgta 180

gctaccgagg ctccgatacc aacagagata cggataccaa cggagatacc aattccaacg 240  
 gtgacaccaa ctctgcgcc tactgctacg tccgtttcga ccacttcagc ggtgccaact 300  
 ctggtaggaa cttcaagtaa cccaatagtg actgtaatac caacagctcc accttccgga 360  
 tttctcttct cttctggctc gattcgaaaa gccttctcga aagctgaac 409

<210> 2074  
 <211> 311  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-F10  
 <400> 2074

gcaaaccxaa taatggaatg ggtgggattg caccggccaa agaaccgggt tcaaccaacc 60  
 gttgcaaaat atactttgga tactttgttg gatactgtgc ctgcttctgt tgccggcatt 120  
 gcctttcttt cgggagggtca aacggaagag gaagcaacga cccatttgca agctattcgt 180  
 gaaagagcaa aggcaactgg aagagcacct tggccattga cattttgtta tggtcgtgca 240  
 cttcaagcta cgagtttaca aacgtggcaa gggaaagcag aaaatgtgga gaaagcaaga 300  
 gaacaatttt t 311

<210> 2075  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-041-Q1-E1-F12  
 <400> 2075

ttatggtgca aaaaactttg ctgcaatatt gcaattgcaa ttagaaaaaa taaaggggtca 60  
 aaactctttg gactcggctt tgctttgtat caaaaccggc aatgaanaga atccgagact 120  
 gtcaagttac ccttttttgt cggtagagag tgacggggca gtaccaagac gccatgacta 180  
 cgcactcgggt ggcacataat agagaaagac tagggcaaag gactgatggt gattcgataa 240  
 agagtaaaga ttcgtggcac tggtagcgta ccaaccgctg gctcgtcatt tacatagcca 300  
 gctggtcggt gcattgtcac gtgcgaagtg agcttcccta gaagaagggt accaagccat 360  
 cttggaatca tccagatttt atatcgattg gtcattcaaa ctttttataaa aaagtaacgc 420

a

421

<210> 2076  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-G10

<400> 2076

gccttactga aaaccgacac aggtactcaa ggaaaaagga aaccaattt aaggtgagag 60  
 aatggacgat aaggaactat gcaaaaggat atggtatctg cggtagaaca tatgaaagaa 120  
 gcagcaccga ctgttttagca caaacacatc actctgcaga aaagagaaaa tgtaaagtat 180  
 acagtgtgcy gcctgccaaa tagtagagaa gaaatcgatg aaagtgaaag cgagtaaaag 240  
 atgaggtata gagaatggcg gtcctaactg taaggatcca aaagtagcga agtaaataaa 300  
 cgtttgaaag gcgtccagta tgaaaggaga aacgagtgtg gcactgtcta ctctgccaac 360  
 tcagcgaaac agcaataact gtgaaaatgc agtaaact 398

<210> 2077  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-G11

<400> 2077

accacgcgtc cgcccacgcy tccgcctttt tgtactcctt caccaacttc taggtacaag 60  
 tctccgctta ggagaggtga ttggccagaa agctgggagt ctgctcgaag tcttggcgct 120  
 agttcgggtc aaccaaaga ctcagaaaca gttgtatctc gggatgaagca tatgatttca 180  
 atggttattc aaagaagcac ttgtctttct ctagcgactt tggataaatg gctgtcttta 240  
 ttgtgtgatt ttatagaatt caatgctgac gagtatctac ttttcctcgt aatgctaagg 300  
 aagtatttaa tatccaacgg tcagttgcag agccttgaag atcacgtgag accacagaaa 360  
 tgggagcgcy ttcttgctgt ttgtgcatac tttgttgctc tcttatcaga agagtttact 420  
 ggccgaatc 429



<210> 2078  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-G12

<400> 2078

ggagtagaaa agagctttaa aggatttcac gggaaaatct tgcaatgaaa aaaacgggtg 60  
 gccactgaat cctggaaacg gagcttttta cggcccaaag attgatgtga aaatccacaa 120  
 ttccttacag aggaaacatc agagcgcaac gattcagctg gactttcaac ttcccattcg 180  
 ctttgatttg gtgtatcacg cacctagtcg tccgaaacaa gattcttctc cactgagga 240  
 agaagagcct gaactgcacc gtccggtgat tattcatcga gctatattgg gttcgggtgga 300  
 gaagtttttg ggaatttata cagaacattg tgctggcaaa tggccttttt ggttgagtcc 360  
 acgtcaagtg atcgtcaatc ctgtaagtga gaaatata 398

<210> 2079  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-G8

<400> 2079

cacgcgtccg cccacgcgtc cgaacctcaa gtggatcatt ccacgttggt aaagatagac 60  
 ttgtctcaag gcagctttaa agtactccaa gactgtgaca aagattttaga atgtgatcat 120  
 aataccaagt ttcagttgga acttattcag tatgggtctct tttcacctgg tttttggacg 180  
 agagaaaatg ttctgtctct ctatttggag ctctgtgcag gtgtattcat aaggacact 240  
 ctctaccttt tctacaacaa aggtgaagaa catttgtttg cgagtttaat gctgttggtg 300  
 gagacacaag tctcactgta tgcagacata aaaacaaact gggagaaacg acactttatc 360  
 gttggcctca tcgtcaggtc tttgtgtgag gaatatcaac gacagtattc agagctatgt 420  
 tc 422

<210> 2080  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H10

<400> 2080

gtccaggtct ccgggtcgat ccaaggacgc gatgggtttt ctccccaaaa gatgtccaaa 60  
gcatttggtta tcttagtgag acttgagaaa ctagtcgtga atcatagcaa gtattgttct 120  
cgtattcact atgaccatca gatggataaa actcgatatg gttattattc catatttcgt 180  
cgtctatttt ctactcaaaa acaacctttg gaccatggag acacaactcc cataaagtca 240  
tcttctgctt tgtttgctgc accacagttg gatagtgaag gaaccaaagt ctctcctttg 300  
tataaattgg gaaaattgaa tcacattgct attgtagttc aagacgtgca agacgcagca 360  
gagttgtata gaacagtgtg ggaagcagat g 391

<210> 2081

<211> 96

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H11

<400> 2081

ccacgcgtcc gaccacgcgt ccgcccacgc gtcagctcat gcgtcaggtg tctcgtgcgt 60  
ggccgcgttg gtcgactcgg tccgtcagtc acacat 96

<210> 2082

<211> 124

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H12

<400> 2082

tttacagaca tttgaggggt atgcctcgtc cttctcctcc tgaatcttct atatcgacga 60  
ccattacggg aaaagcgatt tgtagttagg ttcttgcgct cttagaggac ggagatcgcg 120  
tatt 124

<210> 2083

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H2

<400> 2083

ggtcgaccga cccgtccgag tagaaaaaag agagtgtgtaag gcggcgctcat aatagaaatc 60  
cgaaaggagt agaagaaaag agagagaaga aagaaaagaa gagaaaagcc gtactgaaga 120  
ccgacacagg tactcgagga gaaaggagac ccaaattaag gtgagagaat ggacgataag 180  
gaactacgca aaaggatatg gtatctgcgg tagaacatat gaaagaagca gcaccgactg 240  
tttagcaaaa acacagcact ctgcagaaaa gagaaaatgt aaagtataga gtgtgcggcc 300  
tgccaaatag tagagaagaa atcgatgaaa gtgaaagcga gtaaaagatg aggtatagag 360  
aatggcggtc ctaactgtaa ggattcaaag gtagcgaagt aaatagacgt ttgaaaggcg 420  
tccagtatga 430

<210> 2084

<211> 292

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H3

<400> 2084

acgcacgcgt ccaccacga gtccggtaag gcggcgctcct actagaaatc cgaacggagt 60  
acaagaggac atagagaaga gagaaaataa cagacatgcc gtactgacta ccgacacagg 120  
tactcaagga gacaggacac ccacttcaat gtgtgagatt ggatcgatca ggaagtaagc 180  
acacggatat ggtacctccg ttgacactct gactgaaaca gcacctactg tttagtaaga 240  
acgcaccaat cttcctacca gagataccgt atcgatatata gtgtgcgtcc tg 292

<210> 2085

<211> 444

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H4

<400> 2085

gtctagggtc gacggaccgg tcaagaaaca aaaatatattg tcgttttttg cgccttttgt 60  
gtatcagcgt tttctcgtgt gtttgtttac ttggaacgct ctgttgattg aatgttttca 120

ttctaatttc tttgtagtcg aaaccattcg agggtttgtt acactgactg ttggtgcccc 180  
 tgttttagct cttgccgcta gtcttttcgtt tgccgattat tatcgacgca aaagtatgcc 240  
 gatttttgca aaggaagaca catttttcga gtgatggaac aaggtttgcg aaaataaaga 300  
 atagttgtgt tattcgttgg aaaaaaaaaa aaaaaaaaca aaaaaaaaaa aaaaaaaaaa 360  
 aaaaaaaaaa acacaaaaaa aaacaaacaa aaaaaaaaaa atttaaacc caaaaaaaaa 420  
 ccatttaaaa aaaagggcgg cccc 444

<210> 2086  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-H5  
 <400> 2086

agtctttgaa gtgaaagcca ctgcaggatga tactcacttg ggaggagagg actttgataa 60  
 tagactagtt gactatcttg ccaaggagtt taagcgcaag tataacaagg atatcacatc 120  
 taaccatcgt gccatgagaa gacttcgaac ggcattgtgag agagcaaaga ggactctttc 180  
 aagtgccact caaactacga ttgaagtaga ttctttgtat gaaggatcgc acttctacac 240  
 cagtattacc agagcgaagt ttgaggactt gtgcattggac ttgttcgga aatgcataga 300  
 ccccgtaggag agagttctta aggactctgg attgtccaag agtcagattc atgatgttgt 360  
 gctagttgga ggctcaactc gtattccaaa ggttcagcag ctgctgcaag actttttcaa 420  
 cggcaag 427

<210> 2087  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-041-Q1-E1-H6  
 <400> 2087

agttgttttag tcgaagaatg gcaaaaggag aggcaggagc ttcaaggatca ggtggagcag 60  
 ctaagaaaaa gaagtggatc aagggaagaa taagtgttgg aatgaattga ctgtggaaaa 120  
 ttaatatcct gcaaaaggtaa aagaaaaagt atccaacacg gtgttcttag atgaagagac 180

ctacgaaaag ttgtacaagg aagttcccaa gtacaagcta ataactcctg ctattgtttc 240  
 ggaacgtctt cacgtaaacg gtagtttggc aagacaggct atcagagagc tgttggcaaa 300  
 gggtcagatt tctcttgtgt cgtcacagcg aggcactctt atatgctcca gagcgggaac 360  
 ggcggcatga ctttttgctt tgaaataaaa gcactttaga ac 402

<210> 2088  
 <211> 223  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-041-Q1-E1-H7

<400> 2088

gaaaccactg caggtgatac tcacttgtga agagacgact ttgatactag actacttgac 60  
 tatcttgcca aggaatttaa gcgctagtat aacaaggata tcacatcttt acatcctgcc 120  
 atgagaacac ttctatcggc atttgagaca ccaaagacga ctctttcaat tgccactcaa 180  
 actacgaatg aactatatte tttgtattaa tggctctgac ttc 223

<210> 2089  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-A3

<400> 2089

gtccagggac gcgtcagaca ttctgagtgc gctgatgagt cgatgaacaa gcttcagttg 60  
 ctattcgtaa tcagtcaagc tgtttcaata gcatggcaga gagaatagat caggttatac 120  
 tccgagaaca aatcagttgc atgaggaact ttgggaacca tgtggcatga acgagattct 180  
 gcacagtaga gcgcgtactt tactcgtgaa gatgagcagg cagtacaaag gtagcatca 240  
 aaacttcggc atcaagttgt gccatcagac gacgtattcg cccaacacag ataaggcgtg 300  
 gcagagatct tacagttcca ctgtgtcaag tctaataaaa ctttgagtga agatattgtc 360  
 cgtttctttc attacttcat ccgtgattga tgtttagctg cagttcaact a 411

<210> 2090  
 <211> 226

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-A5  
 <400> 2090  
 ccgggcccgc ccacacgtcc agggctcgca taggtaagga aaatgtaatg attcactttt 60  
 ggaatctatc catttttggc aaatttggtt tcaacctgat tttgtatac taaggataat 120  
 aaagatacgt tgaaaatttt ttgtattcct tgatgacttg tgaaatggaa ttgcgtttcc 180  
 aactcgtgta tgtagtctct ctttaataaa gttcccaact tggaaa 226

<210> 2091  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-A6  
 <400> 2091  
 ggagaaaagt tttgtcgggt cgctcgtcgc gatttttctc tcgacttggg cgccaatctt 60  
 cttcttcttc ttagaatgaa attgaatata gctaattccg ctactgggtg tcagaagcaa 120  
 atagaagtgg acgacgaaag aaaacttcgt gctttttttg acaaaagact ggcgcaagag 180  
 gtcccaggag acgctctagg agacgaattt aaggatata ttttcaagat catgggtgga 240  
 caagataagg aaggattcgc tatgaaacaa ggagtcttga cactgggtcg tgtaagactc 300  
 ttattaaaga aaggagactc ggggtgccga ggggtacggt tgagagacgg tgaaagaaga 360  
 cgaaagagcg ttcgcgggtt cattgtatct ccagatatag ctgtgttga 409

<210> 2092  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-B6  
 <400> 2092  
 acggacgcgt gggcggacgc gtgggcggac gcgtgggcgc gacaacaaca acaggaaatt 60  
 cattgatgga caaacctcaa gtggatcatt ccacgttggt aaagatagac ttgtctcaag 120  
 gcagctttaa agtactccaa gactgtgaca aagatttaga atgtgatcat aataccaagt 180

ttcagttgga acttattcag tatggtctct tttcacctgg tttttggacg agagaaaatg 240  
 ttctgctctt ctatttggag ctctgttcag gtgtattcat aaggacact ctctaccttt 300  
 tctacaacaa aggtgaagaa catttggttg cgagtttaat gctgttggtg gagacacaag 360  
 tctcactgta tgcagacata aaaacaaact gggaaaaacg acac 404

<210> 2093  
 <211> 238  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-C3  
 <400> 2093

aaggaggagaa agaaagattc ttcaaagaaa gaagccacaa gtaaactgc agcagcagat 60  
 gctacaaaga cgacagaaaa gtctgggccg gaagccaagt tgaagggaac tgggtgcaaag 120  
 aaacaataaa aagttgacta tgcattgttc tggtatgttt tgtgagttct gtttgatagt 180  
 ttccagctat tcttttggta gtgaataaag agaaaatttt ttatatttac acagagat 238

<210> 2094  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-C6  
 <400> 2094

aaagaaagga agacacagta aatgaggcga gaaagcatag gaagtgaac ggattaagaa 60  
 cccgtgtagt ctatgcagta aaagaaagaa tgagtaagaa aaaaggaggt cattcgacca 120  
 ggggagtaaa ggcgcaagaa agaaacccaa agcaattgac ggggaatcga aaaaggggtg 180  
 gatcacgtaa attaattcga tttaaaccga gaaccttacc tctccaagaa ggtgtgtgcac 240  
 ggctgtcgaa agaactgtgt gtgaagtgtg agaactgtgt agaaagccaa gtgatgaaaa 300  
 gaaggcaagt agagggcggt ccgagaaatg agagggcgta agacgtgata cagagtagga 360  
 agaaacgaga agagagctag aaacgatgta caagaagagt aaaggactag aag 413

<210> 2095  
 <211> 421

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-C9  
 <400> 2095  
 agttgattcg aggaaaaacc ttggaagaag cgagtaaaat taagaataag gaaattgcag 60  
 aagagttgaa gctaccccca gtgaaactac attgtagtat gttggcggaa gatgctatta 120  
 aagcagctgt caaagacttg caaaagaaaa tgggtgcttc cagtgcctaa aagacgatgg 180  
 aagtttctag tctttctctt cctcctttgg tgtggagaag agttgtgtgt ttgtgtgggg 240  
 gaagagaaga attggtgtgt gagtgaatag aatattattg gaaatagaag atggaaaagg 300  
 caatagaagc aaagaataga ggaaatgctg cgttttctgc caaggaatat gacaaggcag 360  
 tggaagcggt taccgtaagt tgctggactc tggaaccctt ttgttgatat ataaatatat 420  
 a 421

<210> 2096  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-D11  
 <400> 2096  
 attgtgattt tacgcaatct ctggaggaat atcgaacacc tcaataaacc ctttgtgtgt 60  
 ggaagtgttg ttttgaaaat gttaggcttt gtctcaggac agtctctgag ctactttacg 120  
 tgtatgaaca aagacgagag ttgctttta aagtgtaaac gtcgggtacc atattcacga 180  
 attcactgta agccaagtca ttggctgac aagagactaa gacggacttc tcgtaagtgc 240  
 tgcttagttg cgttcgtata gttgcagaat ttttcctcag tttgcgtttc gtgtcacagc 300  
 ccttcaagtg actctgagca acagttggcc tgttttcgtt ggggtgcgtta tatgc 355

<210> 2097  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-D5  
 <400> 2097



accacgcgtc cgcccacgcg tccgcaagat tgttgtttcg tagtttatgt agcaacaatc 60  
 ggaatacttt tcgcgaggaa tgggaacatt taccgcaaca agaacaagaa tggaaaagag 120  
 caggcaatac ggaaaaaaca ggttcattgg gagaaagaaa accctaccct ttgaagcctc 180  
 ttgacttgga taccagatgg agtcttgga gcttgaaccg tgccatactt ataggatatg 240  
 tgggtaatga tccggtgaaa agagaaatct cttcgagcac ggtcgcttgg atgtttccct 300  
 tcagtaccgc ttacaagaaa agaacgggag accaagaaac aatcaccgat tggcacaatg 360  
 tgacagttta agcctcccc tccgcaaagt tttt 394

<210> 2098  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-042-Q1-E1-D6

<400> 2098

actcaacgac gtaatgagac tcaactatct tctctttggt ttgtcttttg tagctgtttt 60  
 cctcgtagct catgcagttc ccgttgagaa agatgcattc agtttcagtc agacttttgg 120  
 aaatgcttct gcttcaggca acgcctctgt tattocagct acaaccaaga tccccagtt 180  
 agaagtaact agtagtgct catcaaagga caatggaaaa gcagctcaag tagactttgc 240  
 agattactca aagggatatc cttcgcttag ctatttttac gctccttctt acacatccta 300  
 tgtggaatct cctcaatatc catcctatcc atcatggcct tcttttaatg agcagcctgc 360  
 ctttggtggc ttcgatccca atgcanagtt tggagaatcc gaaatctt 408

<210> 2099  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-D8

<400> 2099

cccacgcgtc cgaagggatt ttgaaacgca aggaaaaaga atattgcgtg agtttggttt 60  
 gcagtcgatt attcagcaga cgccatcggt taggaattct attgtgtgtc actcagttgg 120

tagagatgga ctgattgttc cttattatct catagagaag atgaaaatga agcgtcaact 180  
 ggaaaatcta atagcacaac gacgtagcgg gacctggaca gtggaaggaa agaaaggaaa 240  
 agttgatgta aagaaatata actggacggc taaggagaag aatacctttt tcagacttgt 300  
 gaaagaatta ggggtgcgact gggaaaagat tgcggaacaa attcctacca agtcaccttt 360  
 gcaacttcgt gccttttatg atgagtacat gtcacagag 399

<210> 2100  
 <211> 359  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-E11

<400> 2100

accacgcgtc cgcccacgcg tccgatcgtc ttccacgagg aagtaatatg atcgatcgaa 60  
 cagcattgcg caatgttga atgcagtatg taacaaccgc ggatgatatt ggacatcgct 120  
 tggtcgtaga gatccaacta aaggaatcca gcatatataa tagtcacatg aaggaaggag 180  
 aacgacaaaa tgcggttaca gatatcattt ctacggaccc tgaaatggat aggaaagtat 240  
 ctcagtgggt gtcggaagga caaaaggcat tcttagtaga agatgagttg acgggtgaac 300  
 gtcgaggaat attcttaagc tcaaccaa atgaaatttca gaaacaacca attcaggac 359

<210> 2101  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-E2

<400> 2101

accacgcgtc cgcccacgcg tccgcgcggg ttaggtcatc aagtagcaac cgatgccttg 60  
 cagttgatgg aagaagctat ggcaaaggat catctaaagt tgaacgatcg tcagcttgct 120  
 tgtgctcgaa tacaatcgaa accaggtcag gattacttgg aagctatggc agctgcagct 180  
 aattttgcct ttgtaaatcg ttcttccatg acatttttag cgagacaagc cttttctaaa 240  
 gtattggatg ccagtcaga tgacctcgat atgcatttgg tatatgatgt gaggcataat 300  
 attgccaaaa tagaggaaca ttgggtggat gggaagcctg ttcagctttt agtgcacgt 360

aaaggtgcc a ctcgtgcctt tcctcctcat catccactca tacctg

406

<210> 2102  
<211> 263  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-042-Q1-E1-E4  
  
<400> 2102

gcagtccatg ctcagctgca tactgccacc tgacagtttt gcaagtttca tgtatgtatc 60  
tggaaatgcg aagtttcctg atcatgtgtc ccgtatgcct tggtaacaa cctgcggcta 120  
gaattgtgaa gcgaactact gctgttgcaa aattcagcaa acacgcctac tgtaaatgca 180  
gtgggtctaa ttgaatcacg actgtctcat aatgttttga agtagcattc cagaatacat 240  
acagttgtac ccaagttctt gcc 263

<210> 2103  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-042-Q1-E1-E5  
  
<400> 2103

cacacgtcca ggagtataac aagacagaga aaggaaaaaa ctgagtatca ggaagaaaag 60  
agggagtaga tgaggaaaga cagatcaagg aagtaagagt aagagaagga gtaatgtgaa 120  
tgaaagcagg aaactatttg aagaagagag tgtaaagcgc gtagcttttg cataatgtcc 180  
cagcgagtga aagaggaagc atagagaaag aaaaagaagt atccaggtaa gacccgaagc 240  
tagttgatct tatgctgtcc aagcgaagta aggctgaacc agtatctgtg gaaaaagatt 300  
tggaagttat ggcagagaca cgtgccagca gcagcggtaa aacgtgtgta ccacgcgtag 360  
agcacaggaa ctgggtgtaa aggtcgagt 389

<210> 2104  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-042-Q1-E1-E6

<400> 2104

ccgggccgat ccaaactgcc agggaaaagag agtaggacgt ggcaacggta gtggccgtgg 60

taactattgt ggaagaggga taaaaggaca aaagaagcga caaggaggtc acgtgaaacc 120

ttggtttgaa ggaggtcaga cacctctttt ccaaaggtta ccacagcaca agtttccaaa 180

gacttggtat gataatcatg agttggtatt ttgggcagaa gttcaacgtt tcgtggatat 240

tggcaagttg gatccttcac aaccgggtgaa tctcaaagaa ctatttcggg ttggtattat 300

aagaatgccg tatagaggag ttcgtttagt tgcccgaag gtcgaccggt ttcgtcaac 360

cttagacttt gaggtaactc cttgtactct taaaccagca caac 404

<210> 2105

<211> 360

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-F5

<400> 2105

agtatgatgc aggcaaagaa gtgacgcagt agatcagaga gtaacacatg caagtaggta 60

aagcgaacgg gtgagtaaag aggtgtgaaa gagtggaaga acatgaaagc acaggagaat 120

gtaagaaatg gttagagtaa aaaccataaa ggaagtaaaa gcgggaatct gagaggagga 180

aagccacatt ggactgaga aaagggtcaa acaagagaag tcagcagtgg ggaaaattgg 240

gcaatgtaca gggaagtatg acccagtaat gaggagtgga gtaaacagaa caggaagtaa 300

aaggacggaa tgaagggaag ttatggcaaa aacacgtgcc agcagcaacg gtaaaacgtg 360

<210> 2106

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-F6

<400> 2106

accaaagcgt atctccgttt cctggaaagc ctttgggttt acgttgctgt aatattcaac 60

aaaagaaata ctggataaaa cagagataca ataatatagt agtatttcaa gtaatatgtg 120

cagctaattc gaaacagtct ttgtaccgaa ttcgtccctt gcaacgacaa gtaagaaata 180

gttgagttaa caaatatttg caagcaatgt tttcatacac atcctccatg gaagttgtta 240  
ctgcgacca tattcttttt ggaaacattt cttggtctat tggtgttgat gaatataaaa 300  
gaatcgcaag atgactcgct tgatcaagtt ctcgtggcac aagaagagac aactggcaag 360  
tatccatttc taggtcgttt agtgggtgtt gttcaattgt ccactattcc caaatgctct 420  
caagttttcc 430

<210> 2107  
<211> 366  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-F7

<400> 2107

aactctgctg tatagaagac gtagcattac agttgcgcaa gcagattgaa agggtttctg 60  
gatgtactgc ttctataggc attggttcga acaagacatt ggccataata tcatccatga 120  
aggcaaatcc taatggacag ttacgatct ggtcttcgga agctatcgaa taattatcat 180  
tgttgccagt ggaacatcgt cctggtgtcg gatggataac tcgacgtcgc ttatagtcga 240  
tgaatatatt tacttgtcag caactacggg aactgtcttt agaaacgtta gatagagagt 300  
ttggacgaca tacagctcat gctctttatc aagcttgcca aggaaaggat gatagacctg 360  
tggaata 366

<210> 2108  
<211> 206  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-G1

<400> 2108

acgacgcgtc caacatgcat gatcaacaat gcaagtagca tacgtcgttt gatgcccag 60  
acacggaagc aacaactgct tcttcaacta ttgctggtgg atgaagtggg gactttcata 120  
catatcgtag gttgacaccg acagaactgg aacgcctatc acaactagac atggaggcac 180  
aggagaaaca tgaaaacgag atatttt 206

<210> 2109

<211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-G10  
 <400> 2109  
 ctacagtaat gctggacaat gggatatacac tatcacgtgg aaagcagagt tttgtcgtct 60  
 tcgagaagaa ctgatgagtg taaagtatta gaagttcatt gtataaagct tggatatgcag 120  
 tcatgagtgg cactctgtgt atgaagggtac acacctgttt catatgggaa ctatacctga 180  
 taaaagcggg tatattcagg tttttgatct tcgaatgatg gtctctggct cggaggatgg 240  
 atttaaagtt gtaagactat atacgagacg ggccgctaaa ccactttcag tagagctcga 300  
 ttatggaatg aactcatggg acatgttagg aacgaacctc agtagtaaaa tggatgatgg 360  
 cacctttggg agcgatacgg taagaatgct gttgaagggt ttaaga 406

<210> 2110  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-G11  
 <400> 2110  
 aggacgcgtg ggcggacgcg tgggcggacg cgtgggcgga cgcgtgggtt gttgggcctt 60  
 gtggtggtga tgccctggat tgagctacgt agtggcaact ccgctgtctt gaaagacata 120  
 actgcaagta ttgaaaagcc tgacataaaa tggataacta ggacgaatct cagtacttgt 180  
 ctgaattctg cagaaggaaa tgttacgggt gacttgtcgc ggcagtgtag cttgaaggat 240  
 atattttcat tgaagcttct cgacaataac ttttaagttgg cgtgttttaa tgatgccttg 300  
 tttttagttt taccaggctt atcctttggt attactggta atcgtatatt ctgtagacgc 360  
 tcggacttga atgaaa 376

<210> 2111  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-G2

<400> 2111

ggtcgacgac gcgctccgcc acgcgtccgc ccacgcgtcc gctttgtggg agaaatgttt 60

gaagccttgt gacttgggat tctctttgtc tgtcttcgtg ggcaaaggte gtagctaact 120

tgcgcaactt gttgtttttt atgcactaga atggaagtgt cgtggtggcg tcttttgggt 180

tggccctcgg aagatcaacc actttcgcag tatattgtgg tcaaagactg tgctttatgt 240

gaggggacac cttttttaca ccagatagct gcagcatact tgcgaaacgg atttttccta 300

gtctatctgt ctgcagagac accatgggtat tccctgtact taaatttaag aaagctggga 360

gtacgttttag attctagcca aggtagaaaa cgcattattgt tcttcgatgc ggccgaccca 420

tcggaaacga acagcaatga agactaacca 450

<210> 2112

<211> 426

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-042-Q1-E1-G4

<400> 2112

gtcgaggggac gcgctcaagg tcatatctat ttgagtgggt ttagtcataa tatgcaagaa 60

attatgaaaa cgctgactat tataagtacc atatttattc cactaacgtt tatggctggt 120

gtatacgga tgaatttccc tcgaatgcc gaattacact atggatatgg atatactatc 180

ttttggtaag attgttggtg aggagtttct cgtacaagta tatacatgat tgagaacgga 240

acatagggtg atggcacttg tcatagttgg gcttgaaata tttatttttc gcaaacgagg 300

ttggatanga agttgatgta tgctgcagat cgaattgtca ggagaactac gctggcttgc 360

tctttgctcc tggaccacaa ggaacaaact ccatcagctt taccgcataa actattgact 420

tgaaac 426

<210> 2113

<211> 382

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-042-Q1-E1-G5

<400> 2113

acggaggcag ttgcaactgc tctgtattgg ttagaacaag atgaagcaaa aggggtctaag 60  
 atttatcata ctattagaaa ctgcataaga aaattttgtg aaaaacaaat gcagtacatc 120  
 tccaaagact ccgtgagaca tcgacgtcaa aatcaagggt atatagaaca attgtatgag 180  
 cagtggcaaa gctaaagcta gaaaaagggt tagttttccg gttcttggtc ttttctactg 240  
 ggacgttctc tactatgacg cctatgacga cttgaggaat gccttccatc tctacttgag 300  
 cgtctttctc tactggacct tcttctatgg ctcgagctcg atctccttct tctatgatgc 360  
 tcgggagaac gactttctcg tc 382

<210> 2114  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-042-Q1-E1-G6  
 <400> 2114

gggccgaccc aaacgtccac gttcatgaat gtatTTTTgc gttcgttgat tcgtgcactg 60  
 gcctcccttg tgtttactta ctacagaatt tcgccaaata tggggggtga acaagctttg 120  
 cccgtggctt gccctatagt aagcgaagtt cttagttggt ggcaagtttt ctgtaggaga 180  
 cctgactgga gtctgggact gacgactctg actgaaactc caaataattt tgtcaagttt 240  
 cagtcgtctc atgtgtttac ttttctttgt tttgcgtgag atcgagttt ctgcgggagt 300  
 ctgaccgggt gggagagact tcagcttctc tttacaggaa tactttgcca acttgttggt 360  
 atttgttttg cttgaaagta aatataaatt gcatttgttt ggaaaacaac atctacgttc 420  
 ac 422

<210> 2115  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-043-Q1-E1-A1  
 <400> 2115

gcgtccaccc acgctccgc acgatagcgc cgacgacaag acggattata gaaagatagt 60



gctctccagt gtttggtttt gtgatggggc gtctcagtgg cagccataaa atanagtaat 120  
aatttggtta ttcggcctaa atacagaatg agtaggaata gttggaggta ccaaatcgta 180  
tcctgagtaa atcttttctc cacttgagaa gatgtcctgg aattatagaa acactagctc 240  
acctctatatt cggttctgc tgaattgcgc aacttttaac aaatatactt ctttagctgt 300  
cttacagtga tatccgggtg gcactcttaa gaacggtttt ttaggggacg gcagattaga 360  
gccctggatt ggtgaaagct gtaacaaaca 390

<210> 2116  
<211> 76  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-A11  
<400> 2116

gaaacagccc tcatcacct agacatttcc actgggctcg catagggata ataaagatag 60  
gttgaaaatt ttttgt 76

<210> 2117  
<211> 209  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-A2  
<400> 2117

cgcgccaac tatatgacgc aggcatacaa gtgacgcagt agatcagaga gtcacacatg 60  
caagtacgta aagcgaacgg gtgagtaaag aggtgtgaaa gagtggaaga acatgaaagc 120  
acagaagaat gtcacacatg gttagagtag ggcccatggc ggaagtaaaa ccggaaatct 180  
cacaggacga aacccccatt ggaactgag 209

<210> 2118  
<211> 72  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-A3  
<400> 2118

ggtcagcgag gtgaagtgag tagagaaata acaaggatac ttgtgctaga aaataaaggg 60  
gtcttttctt gt 72

<210> 2119  
<211> 305  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-A5  
  
<400> 2119

cccacgcgtc gaccggatgc attgctcagc gatgtgaagt aaacgagtgg tttgtgaaaa 60  
tacaacgaat aagagaaggt cgggaagctt tcaagtcatt tgcccagtga cacgtttctc 120  
gtggttagag tgtgtccttt gaaaatttga ggaaaaggac atagttttgg ttcctagcgg 180  
taagcagtac ttgttctaga aattttgtaa gtttatactt tggctattct tttatagaca 240  
cgcttaggca agcttgtatg tgggacactg cttggaaagg catttggaac acttaggatt 300  
gcctc 305

<210> 2120  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-043-Q1-E1-A7  
  
<400> 2120

acccacgaac gaagctttta acaaggagaa atttggagtt aatagcacat tcaaggaaga 60  
actatacact accaaacttg atcgttcggc tcccgatatt gatgaaaagt tgcgaaaggc 120  
cgaggaaata gcacagcaaa ttcgaagagc ggaaaccacg aatatccact tgaaggaaga 180  
aagaggacag gaattggaaa gagattatga tgaggaatta gtatatgggtg cagtgggttcg 240  
tgaaagtgc gctggagaat tgaatcaaaa gtatgacaat caaaaacccg atggaggctc 300  
ttccttgctg gtgttganac aagaagggtc gaatggaagt gcagctgttt ctgtagaccc 360  
tatccccgct tccgattttc gacaacggac ca 392

<210> 2121  
<211> 394

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-A9  
 <400> 2121  
 aatgtaaagt atagagtgtg cggcctgcc aatagtatag aagaaatcga tgaaagtgat 60  
 cgccaataca agatgcggat ccatcgagca attctgagga taatggtgaa gtcaaacaag 120  
 aaaatgatga acttaattca caagcaactg gagaagaaga tgcagaggat atggaagaac 180  
 cttggaccta tttgttggag caaattgcgg aggcagaaag gatagagttg cactgtgggt 240  
 ggtccaagga ggatcgacaa aaccttcttg ttgcgttgaa agagacaaaa caattagatg 300  
 caacagtcct ttcgcaacat gtgaaaagca aaagccctga ggaaataacc gaatatctaa 360  
 aagtattaaa ggacagactt gggaagaaag atga '394

<210> 2122  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-B11  
 <400> 2122  
 acgcgtccgg acaatgtgaa actttccact ttattggatc tctttgcaga gtatgccaaag 60  
 ttggataact tgttttctct atgtgaacaa aagtttttgg aaatgcgtcg aattgcacgc 120  
 ctgttacaac aagcgggtac tttatcgttg agagaacaat ttgagttttg ccaagctcct 180  
 gtaaaaattt cggatccatt tcttatgaaa tacttggttaa ggtaaataag aggctttggg 240  
 acattttctt ggaatcgata actcgtgtag ttttgcaaag aatgttgctg caggcgttcg 300  
 ttcggaactc accatccgtc cgtatcgttg caaattactg acacaacttg atttacacaa 360  
 gttggaaagt cgatatcgag tatttgattt gtatagctac ttgag 405

<210> 2123  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-B12  
 <400> 2123

aagaacaaga actgagttga cgatataaaa ggaagaacgg accgagtttt acaagtcgat 60  
attgctggag tattcttctc tgccgttttt tcaggagttt tgatgattcc tgcctttttt 120  
gcggtcaata tgtaattcc aatagagcat ttgaggaacg gaagtactta ttttttcatt 180  
gcggtagtaa ttctttgttt cgtagctatt gctgttctgg ccattctgta tgtaagggtg 240  
cttaaaggaa atgaaagaat gcgacttgag ttgctgttgg gcaaggagaa gacagcaaca 300  
ataacaggaa cagtgaatag ttagaaagggt tgatgttcgt agatattcac tactt 355

<210> 2124  
<211> 246  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-B3

<400> 2124

acatcaaag ctcaaacgga ggaaagaaag attcttcaaa gaaagaagcc acaagtaaac 60  
ctgcagcagc agatgctaca aagacgacag aaaagtctgg tccggaagcc aagttgaagg 120  
gaactggtgc aaagaaacaa taaaaagttg actatgcatg ttctgttat gttttgtgag 180  
ttctgtttga tagtttccag ctattctttt ggtagtgaat aaagagaaaa ttttttagat 240  
ttacac 246

<210> 2125  
<211> 294  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-B5

<400> 2125

cccacgaacc aagggggcga gttgctcgct ataaggcctc cataactccc ttatggtcct 60  
caaaatagtt ttatgcgaaa gtctctcatc tatttgcaag tatctatgat tggacaagct 120  
cttatcttct gtactcgtgc atactggatg ttctttatgg atcgctctgg tagcttattg 180  
atgggtgcat tttgtactgc acagactctt gctagtttct tatcggttta tgccaagtgg 240  
ggctttacag gtattgacgg agttgggtgg ggggtgggctg caactgcctg ggta 294

<210> 2126  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-B6

<400> 2126

gaccacgcg accagcttct cctagtagcg aagaagtttt actgtctgta tttcagtttt 60  
tagaaaaagt aacagaatat ccagcagtg accacataa agctttggca ctggtgtac 120  
acggtatttt gttaactcac ggttttcgtc cttcagaaga agaaccacct gaaaacgtgg 180  
ataactggtc ctttgcagtt gaaaatgcga agatacccaa caactttgag gaaaataagt 240  
atggagggag ttatagacac tacagaagtt gtatgacgtt tgaaattcga atggtacctc 300  
tgagcaagtt tgtgggtgtc aacgcagtag ccagtgatat ggacaaagta ttttattcgg 360  
agctcagact gggaaaatat t 381

<210> 2127  
<211> 94  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-B7

<400> 2127

gtccgttgtc gactcaaadc gcattatgtc ctctcatctc gttgtggcgt tcctaagggt 60  
actgtctgat tggattggac tgcaccgcgg gcga 94

<210> 2128  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-B9

<400> 2128

agaatagtag gcggtgatgg attggaagag acaagctggg tgaagtagcg agacaagaga 60  
agggaagtaa aaggtaagaa agaggaaagg tttacgagag aaggaagtag aaagaagaga 120  
gtgtaaggcg gcgtcataat agaaatccga aaggagtaga agaaaagaga gagaagaaag 180  
aaaagaagag aaaagccgta ctgaagaccg acacaggtac tcgaggagaa aggagaccca 240

aattaaggtg agagaatgga cgataaggaa ctaggcaaaa ggatatggta tctgcggtag 300  
aacatatgaa agaagcagca ccgactgttt agcaaaaaca cgtgccagca gcagcggtaa 360  
aacgtgtgta gcaagcgtag agcacaagaa ctggggtg 397

<210> 2129  
<211> 265  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-C1  
<400> 2129

cgcacgcgac cgatcgtacg cgtggcatgc attccacttg ccgatgggtc attgcgctag 60  
cttctgtcgg gttattcttc cagtttattt ctcttatatt ccattctatc tctcaattgg 120  
caaagatacc gtttgattgg gctgtggaag cagttgtaaa ctttttcatg atgtggtggt 180  
ggtttgctgg tgctttgagt gtgatgatat cgaagcctac tgcccacttt cagcggggat 240  
atgattttgg tttggaagtt agtac 265

<210> 2130  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-C3  
<400> 2130

cagagatctc tagagaaagg caagaaagaa aagaaaggaa gacacagtaa atgaggcgag 60  
aaagcatagg aagtgaaacg gattaggaac ccgtgtagtc tatgcagtaa aagaaagaat 120  
gagtaagaaa aaagggagtc attccaccag gggagtaaag gcgcaagaaa gaaacccaaa 180  
gcaattgacg ggaatcgga aaaggggtgg atcacgtaaa ttaatccgat aaaccgagaa 240  
ccttacctct ccaagaagg gttgcacggc tgtcgaaaga acgtgctgtg aagtgagaga 300  
acgtacgaga aagccaagtg aggaaaagaa ggcaagtaga gggcggcccg agaaaagaag 360  
ggcgtaagac gtgatacaga g 381

<210> 2131  
<211> 183

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-C4  
 <400> 2131  
 cgcggtccaac caacgaccct gtcaatcttg ctggtatggt cgctgcaaact actttacgtg 60  
 gtgatgttca acagacgcac gggcttgagc atgaagagtg gttaaactg acggagacgg 120  
 gcgggggttca agatgagaaa tgtagttag gcgatgtggg aaatcctgag gaagtaccgt 180  
 ccg 183

<210> 2132  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-C5  
 <400> 2132  
 caccggtccg cccacgcgtc cgccacgcg tccgagacgt caaaatttcc catcgcatg 60  
 tgaccaactc ggcgtcgtcg tagtacattc ctttgggcat acttgtacaa ccatgaagta 120  
 cttggcagct tatttttttg ctaaaatggg aagcaaaca ggcaaaccta ctgcagatga 180  
 tgtgaagaaa atattgactt ccgtaggtat cgaagtagat gaaggtcgtc tcacgcaagt 240  
 cgtggaagct ttgaacggaa aagatttgaa cgagttgatc gaacaagggt tacagaaaat 300  
 gtctacggtg ccttccggtg ccaactgcagc tgttgagca gcagttggtg gagcagct 358

<210> 2133  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-C7  
 <400> 2133  
 cagtttggag ataggttacg tgtcatggat gcccttgag ataactttgt ggaagaaatg 60  
 gaagcttggg ttggagaaaa gcaacctttt gatgttatcg ttgccaactt agttcttcat 120  
 atttaccag gaaacaatga aaaatttgtt caacatgtgt ctcgtctctt acgccctggt 180  
 ggtgcatttt tgggccaac ttttgagcg gaggattctt ttgaagaagc atatgagttt 240

ggaattcaac gcagagcagt gatgcatagt ccagtgtcca ttgcatccat gttggctcgc 300  
cataatatcc atcccggttca tgtggatata aagagcagat taatagacga cgaagatttc 360  
aagtggatcg aaacag 376

<210> 2134  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-C8  
  
<400> 2134

cccacgcaac caggcggatg tttattatgt ggaaccgatg aaaagaaaag agtaagtttt 60  
ggggattggt gccaacgata tagctcaatt tggtaattat gaggaatgaa acggcagcgg 120  
agtttgcgaa aagagtgaag caagcaatcg tgcgtcgaat aggcttgata gatgtggagt 180  
gggatggatt cttgaagaga catcgaatgt cctcaaagtt tattcaacaa agacaaaagg 240  
cacatgcaat ggttttcttg cgtcgaatgc agcgaaatgc agaacattcg caggaaagag 300  
gttttgactc ttccgtagac ttgagttcgc tatccacagc ctcttctcca gccatcgtaa 360  
gaaagaggaa agccaaccac acgaaaggg 389

<210> 2135  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-C9  
  
<400> 2135

cgtccaatgg aatgtttgga atgcaccaag ttatgagcaa ccaagtttgt gaagcaagtg 60  
tggagttgaa atatttagag gcagtagaga atgtacagga aatatacaaa aatattccag 120  
agagtgatct attggagttg tatggtctat ataaaagaat aaaggatgga gaagtcctt 180  
tacagaatcc tttctatttc tatcaatgga aagaaactgc caagtggaag agttggaagg 240  
aggcaagtaa taagtattca aaagaggaag ctatgaagaa atatattgca ctgagtgaag 300  
aatatcacia gaaagattcc aatacaagtt atactgggaa acagccttta ggtttcgagt 360  
tgcctaacag tgaagaagag caatcccaga aacctgtttt ggacct 406



<210> 2136  
 <211> 234  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-043-Q1-E1-D1  
  
 <400> 2136  
  
 ttttcggata agtagctgtg gtcacagtgg acgacgtcgt ttgtgttttg cttgtcattg 60  
 ttgtccagtg gttccatggc gtttcacttg ttacgagtga agcgtaaagg tcgtttcttg 120  
 aactgcactt gaagccaagg cgagtttaat tgacgggagt tggaaaccac gttgttgcaa 180  
 aattcttttc aggtgggtat ttagcatagt ttgactacgg tgtgaaggca gttg 234

<210> 2137  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-043-Q1-E1-D10  
  
 <400> 2137  
  
 tccgcggttt ttgagaggtg gcgggcatgg cgcagtgtaaa tatgtgatgg ctttggtctt 60  
 tatcagcttg attttagttt tctttctttg gttggcctcc tttgtcgacg cattgtatcc 120  
 aattcttaca aagttctggt ttgtggagct tggatatcaac atattcctta ctatgtgggtg 180  
 gttggttggt gcaattgtgg tgactgcaaa gcgaccttct agtgttggtta tggatgcgct 240  
 tcacataacc aaagatatca attcaatcga tggcctttca tggatcaact ttgctttttac 300  
 gctattcctt tgtggagtag cagcagttga cggattgttg gtgggagata agaccagcag 360  
 ctccggcaaa cagaatac 378

<210> 2138  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-043-Q1-E1-D2  
  
 <400> 2138

cgcggtccgac agaagagcgc gatgtacaac aagcagcagc atctggatcc acacgatgat 60  
acaagtgcac aaagaccaga ctttatgccg tatcaaaata atggaggggac agtagtagct 120  
atgggagggg aagactattg tatcgctcgc gcaacgactc gtctaggttt gggtttcgct 180  
attcctacga gaaacgtttg tcgatatgcc atcttaaacy accgcgtact gttggcaact 240  
gctggaatgt atgcagacac cgttgccttg cacaaatttg taacagctcg agtcaaagtg 300  
taacaacaac accaaganaa accttttggg ttattctccg ctgcacantt tgtatccact 360  
actttgtatt tcaggagatt ctttcc 386

<210> 2139  
<211> 322  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-D3  
<400> 2139

ttcgctcgacc gacgcatgca acgtactata cgaagaagat ttgaaagacg tatttatatt 60  
cctctaccaa atgttcaagc acgagaacga atgtttcagt tgcattgtggg aaatacacccg 120  
catgagttga aacctgaaga tttccacgaa ttggctcttt taacggaagg atattcgggg 180  
tccgatattg ctatttttagt tcgtgatgca attatgcagc ctgtacgtac ctgtcagaat 240  
gctcaagcgt ttaagaaagt gaagaagccg aagagtgcta cggacaaagc attaacgata 300  
ttctatacac cctgtagtcc ag 322

<210> 2140  
<211> 284  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-043-Q1-E1-D4  
<400> 2140

cgcggtccaag gacgcgtggg tgaagaccac aaaggaagca tctccggccg tctttctttc 60  
tttcgtttca catgtagggt tttctgtttg caagattaaa ctgtcgtgta gtcgctcagt 120  
gacgctgttg ccttgttcta agaattgggt gagacttggg aggcgttcaa gagccaaagg 180  
atatgaccgc attgtatccg cggcattgga ctctttttcc ctgccagcgc ctgaacatct 240

gaatggagct gagaactaca agtatgggga tcagcgtaac ttga

284

<210> 2141

<211> 370

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-D6

<400> 2141

accacgcga ccaccacgc gtccgcccac gcgtccgcc acgcgtctga agtaatgccg 60  
acgcagtccc aactacgttc cttaggtcga ctatatttgt ggagaggcat cgctcagcat 120  
ggaggtgcta ctgcggtagc caaaagggtt ggatggaaag tgattttgaa accttacaaa 180  
ttttggaaat cttttgagca tttggaacgc gaactgattg catttattga gcattctcac 240  
ttacctcgag tcatgccgac gcaggagaca ttgcgataag ctggtcgtta ggatattatt 300  
catgccattt acgttcatgg acgctcggat gaagttgcaa ggcatTTTTAA tttgccttac 360  
aatccgactc 370

<210> 2142

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-D7

<400> 2142

gagaaaggca agaaagaaaa gaaaggaaga cacagtaa at gaggcgagaa agcataggaa 60  
gtgaaacgga ttaggaaccc gtgtagtcta tgcagtaaaa gaaagaatga gtaagaaaaa 120  
agggagtc at tccaccagg gagtaaagg gcaagaaaga aacccaaagc aattgacggg 180  
aatcggaaaa aggggtggat cacgtaaatt aatccgatgt aaaccgagaa ccttacctct 240  
ccaagaaggt gttgcacggc tgtcgaaaga acgtgctgtg aagtgagaga acgtacgaga 300  
aagccaagtg aggaaaagaa gggaagtaga gggcggcccc agaaaagaga aggcgtaaga 360  
cgtgatacag agtaggaaga aaag 384

<210> 2143

<211> 387

<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-D9  
 <400> 2143

```

caattcgtat tgcacagtgg aattggatat cgacggctat tatggataac aaaataggaa 60
agcgtggagg tactttgaaa gacgtttcag caccagactt cattgcaagt tacgcaaact 120
ttttaaaacg caccggaaac gtggaactgc catcatgggt ggattatgtg aagaccagta 180
cgaggaacga actagctcca tatgatccag actggttcta cgtgagaatg gcagctctcg 240
ctcgtcaaat ctatattcgt ccaggtagag gtgttggtgc attccgacgg gtatacggtg 300
gtcgaaagag aaggggatcg aagcctagtc acttcgcggt ggcttccagt tcagtcatcc 360
gacatgcact tagacaactc gaaaagt 387

```

<210> 2144  
 <211> 85  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-E1  
 <400> 2144

```

accacgcga tcaaacatca ggcacgcgt ttgccacgc gtccgggaat gggttgcgca 60
ttctccacgc agctgcaggg gccta 85

```

<210> 2145  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-E11  
 <400> 2145

```

acccaacgtc caccacgcgt ccgcggacgc gtgggagcga attgaagaaa actttgcttg 60
tgactttgtg ctgaaacctg aaatgatgca gcaacttgcg aaattggata aacagcaagt 120
cgtttgtgat accaaagaat attggaattt ggctgtgaat tcctagtttt tgttcctaaa 180
aaataaaaaa taaaatgtgt cgtttacatc gttaaaaaaa aaaaaaacia aaaaagaaca 240
aaaaaaaaaa aaaaaaaaaa acaaaaaaat aagaaaaaaa aaaaaaaaaa gaagaaaaac 300

```

acaaaagatt aaaaaatatt ttttaaaaaa ggggggcccc cccaaagggt tcaaattcta 360  
 tttacgtttc aatcaaagtt caaacctctc caagggggtc cccaaattca attcaagggg 420  
 ccg 423

<210> 2146  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-043-Q1-E1-E12

<400> 2146

attgntccc cacaaactct gtcggttggt gaatagtttg gttcgaatat ttatcgggtga 60  
 agaaaagttc gaaaagatgg aaacaaaaga gagcttgag gaaaaatttt gcagaatatg 120  
 tcacgataca gacctaacg agcttattcg accttgtagc tgcacaggta cgttggcata 180  
 tggtcacaga gagtgtctcc agaggtggct gcagcaagt tccgactaca agtgtgagat 240  
 atgtggcaag cagtaccgtt gtaaaaagaa aactcgctcc tttttgagtt tcctctttcg 300  
 taaaggagct tggcgagaat ggctgcactt gggttacgtc accttttttg tcaatcgaat 360  
 ttggagccaa actggagttc tgttgcaaact tctgaaacta agacaac 407

<210> 2147  
 <211> 127  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-E2

<400> 2147

cgcgtccaac caaccgtccg ggcggtgctt tccggaatgc ttaggtttgc actagcctat 60  
 acttttcttg cccccctgt gggtagacgc aggctatgat tgggcgcctt cgctgtgttg 120  
 tttgtgg 127

<210> 2148  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-E3

<400> 2148

cgcgccaat gaattcttcg tgggtttgcg tctcaagatg tcttttttga aacgtataca 60

gtcgactctg ctttccaaca gaaactcagt aacaaagaca agtaaggcca attacgacat 120

aaagcacgtt cgggtttacc gctgggaccc tgaaaaggga gaagaaccta aattgggttac 180

ctactcgatt cctctcaaag aatgcgggtcc tatgggtgtg gatgccttat tcaaaataaa 240

caatgaagtg gacgctactt ttgtatttag aaggctgtgc cgagaggga tttgtggaag 300

ttgtgcgatg aatatagatg gaaaaaaccc tggggcttgg ttaactccgt tagcaggacc 360

gaagcagaca gtgac 375

<210> 2149

<211> 198

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-E4

<400> 2149

tgcaggcaag tggagcacag actttttcag acatttgagg gttatgcctc ctcctcctcc 60

tcctccgcaa tcttctatat cgacgaccat tactggaaaa gctatttgta gttatgtttc 120

tgcgctatta gaagaaggag atcgcgatt gaatgctatt ggaaagcata cagttcctag 180

tggtatTTTT acacagga 198

<210> 2150

<211> 375

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-E7

<400> 2150

cacgcgtccg caaaagatca agcagcaaca atgtactatg acagtctctg aacaatacat 60

acagcccgat acttgctaca agtatgtccc tgaacaacaa ttggtgcctc atacttgta 120

caagtattat tctgtaccca agtttattga aaagtgtat cctcagtatg caacaacgga 180

gaaatgtgta gagtatgagt aggttccata tgccacttct acaccttatt catcggtatc 240

tccaagttat actccttcag catatcaaac aacttctgct tattaagag ccgaagactg 300

gatagatttt tgaagtgtct cgtgttcaaa ggaacccatga gacataagaa aaagtaaacg 360  
atttggtttt atgta 375

<210> 2151  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-F1  
  
<400> 2151

cccacgcaaa caagcgtccg cccacgcctc cggatgacga ccgttcatgc aactactgcc 60  
acccaaaaga cagtagatgg accttctcac aaggattgga gaggaggaag aggaattttg 120  
aataacatta ttccatcttc tactggagca gccaggctg ttggtaaagt tattcctgaa 180  
ctgaatggca agttgacggg tatggctttc cgtgttcctt gtccggatgt ttctgtcgtc 240  
gatgtcactt ttcgtttaaa gacaccaacc acttatgacg atatcaaggc aacgatgaaa 300  
gctgcgtcag aaagcaaagc tttaaaggga atattggcat ataccgaaga tatggtagtt 360  
tctactgact ttg 373

<210> 2152  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-043-Q1-E1-F12  
  
<400> 2152

ctcaccatct ctagtagaag aatatgttgg cgtttacttg tctcacagac tgtcgttggt 60  
tagagacttc tgcattctcc agatgtgcc aagccaatac cgtctcgttg cgacgtagtt 120  
cccagtgttc acactcttgg aggagtgttt cgatgaacta cagtccttat tcgataacta 180  
ccgacaaatc agaaggacat attgttcccg gtactttttc aagatttgag tttcttgaag 240  
gtcgagtac cggccaacc gtcttgaacc ctagcatact tgactttaca gtgtctaata 300  
tttcagatgc tgcctttgga gaatggagag cattatcggc ttcaagtaga gcanaagaac 360  
tggaacacag aagaaacgtt cacaaagcga caatagaaag tctcaagaag actcctaccg 420

aaaagtc

427

<210> 2153  
<211> 223  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-F2  
  
<400> 2153

gtccgcccac gcgcccgaa agaggcaa acgggaaagc agtaaaagaa gaaagagaaa 60  
ggaaaaaact gagtatcagg aagaaaagag ggagtagatg aggaaagaaa gatcaaggaa 120  
gtaagagtaa gagaaggagt aatgtgaatg aaagcaggaa agtatttgaa gaaaagagtg 180  
taaagcgcgt accttttgca taatgtcgca gcgagtgaag gag 223

<210> 2154  
<211> 365  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-F4  
  
<400> 2154

gcgtccgacc aagcgccga tcttctcggt ggatgctacc tctattagaa catttgcgaa 60  
cgtcttattt caagttgaat ccatctatgc catccacttt tcatgttgga gagactcttc 120  
agaagccaca attgtgtcag attgcacaag ctttggttaac agaagcggat aaaattctgt 180  
attctgttta tcgtcatgta ccagattcag gtatgttgac ggaagaaatc aacaggtata 240  
cgggattcga acaaggagca gaaaacctta catggagtta tgactcggtt gttactgcag 300  
tctggagcag gaattattcc ttgaacactt ttcgtagtaa ttgggttttg gggtagtttt 360  
ttttg 365

<210> 2155  
<211> 303  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-F5  
  
<400> 2155



gcgagcagagt gggagcggat tgacataata ttagcctgcg acattgtgcc gtttccatgg 60  
gatgtggcaa cagcatcata cattcggata tcatcatctc gtatagtgat gcgacaacca 120  
ctggaaattht cgctgtttcc tcttaattht tctgcgaaag actatttact actgtgtgtc 180  
gaatacatat ttccaaatat tacgaggaga aaagttgggt cgagcatctt tgtcatggat 240  
agaaactcta aaataagcac caagacactg aagaggcatc ttccggatac acgagacttg 300  
ggc 303

<210> 2156  
<211> 300  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-F6

<400> 2156

agaggaggag gcagaggaaa tagtcgagga ggcagtcgcg gtggtagttt tcgaggcca 60  
atgaatgata atagacagga aagagatgct tcacaagggt tcgccaactc tgcaagcgt 120  
ggtgggagag accggacagg tgataaaagt gcgactacga gaagagtgc ggaactagt 180  
agaggaagag gaagtggaag agcaggagct ccattccgtg gaaacaacgg accgaatgag 240  
cgccctccaa gagaaaggaa tattgggaga aacgacagga aacctttctc tagaaatgat 300

<210> 2157  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-F7

<400> 2157

acccacgcga ccaccacgc gtccgggtgt ttgttggtgc tgtagtctt cagtgggtgag 60  
cggatatgtc tctgacagac atcctgtatt ggggtggacc agtagtttg agcaaacgct 120  
ttgaccttcc actatctgtt acttgcttct ttatatattht catagtattht catatagctt 180  
gtgccttctt tggatttgct gactattgga agcttctgc caagtacaag ctgcacgaaa 240  
gtgacgagaa gacctacctg cagttgctgc caagagttgt gttcaatcaa ctggcgtht 300  
acttgactag ttgctacata ggagagaaaa tgggttggt attcagaacc ctttctaaag 360

acaatgcttt ccaactctgg aagttgccta tctat

395

<210> 2158

<211> 296

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-F8

<400> 2158

acctttttcag ttattgcaag attccgccag cagtgaatca gattgaaatg catccgtatt 60

atgcaagaac agatctgctc gaattttgta agagtcgtgg agttcatgtg actgcttatt 120

ctcctcttgg gagcggtaaa catggtcgcg ttcaagatga gacagttgca aagattgccca 180

agaaacatgg aaggacacct gctcaggtat tgatccgatg gtgtctagaa cgtgggtgtg 240

ccgttagtcc aaagagcgta aagaaagaac gtatcaggga aaactttgga gtttta 296

<210> 2159

<211> 371

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-043-Q1-E1-G1

<400> 2159

cacgcgtcca accagcgtcc gtgatgatgc gccgagtaga gacgtgactt ggttggttca 60

gatcgtttgg aacaatagaa tctttagaaa tttttggctt ttttggtggt ttatgtgctg 120

ttttgtgact aaagtgtctg tactgaatat ctgctgttga catgaagttt gggaaaaagt 180

tacaagacgc agtggaagct gcanacaagg attggaagcc gtactttata gactacaacg 240

gtttaaaaac gttaattgct acgagtgtgg tggagtacaa agacaaggaa ttcagtgggtg 300

gtgtggtgga ggaagacaaa gaggaggaga gtacgaaaga ggagcagacg gcggtgaatg 360

gagaaaatat c 371

<210> 2160

<211> 288

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-G10

<400> 2160

ttgcagtagc gtggatcata gcggtagggt gttcacatth gacagtthaa cactgtaaht 60

atcgcatgaa tgttcatttg tacatcagta acactthctt agaaagagat caaaggthtag 120

cagggtgacgt cactgcggat atcgccacag acatgtgtgc tctthtagata tctgagtgca 180

thtagcgtcg caattgtgtt ccgtgtgagt catggtaatc acagthacctc atcagthatgg 240

ctgtcaatgc gtccgctata gatctcactg caatgctagc ggthaaac 288

<210> 2161

<211> 325

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-G2

<400> 2161

cccacgaatc aaatgcagca atttcggcta attgttgtgg aacaagataa catgtcgacc 60

caaaacgcag taggctctgc caacttgaga aggagaaata cggcttcacg cagthccgggt 120

thtaactagth ctggtacgag cacctcgagg aattatththt ccgcgcgact gtatagcgac 180

gaagcacccg gthtgagagt gggaccaacg tctgttatgg thththtagctt tgtctthtata 240

ccththtgthg tagththtgca tgtgtggthc aagththcgag gthgattagg gaataatagt 300

gaaattaaaa gtacgacaaa catgt 325

<210> 2162

<211> 262

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-G3

<400> 2162

cgcgthcaaag tgatttggtt gtcattacgc thcacgcagt gtgagthgtc gthgcgcagt 60

gthtgaaagt tatagtatta cthattgttc thggttgga cactactgat ggacgcagaa 120

thgagagaga aatctgttht cthththcaaag thggcagaa aagcggaag atathgatgaa 180

atggtacaag aaatgaggaa agthgcctcc caaacgcagc aaacaccac ggagctthtca 240

gthgaagaga gaaaccttht gt 262

<210> 2163  
 <211> 214  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-043-Q1-E1-G4

<400> 2163

cccacgcaat ctacggtacc cgctgtactt aggcatatca ttctgcggng gacaagaaac 60  
 caactggaat tcccctagta cgggcgagcg aagcgggaag agcccactat gagaatcctc 120  
 tttttctacg gtgagaagag gagatgtgtt taggcaggac aagaaatata tcgggcacga 180  
 aaggagcaca tttcctggaa tggaatatca tgga 214

<210> 2164  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-G6

<400> 2164

tccaggcgctc gtcgattttt ggttggttatt ctctcctttg acctatccta cacaatgaaa 60  
 ggttggtcttc atcagtatag tattgttgga agaaagatac caacggaaga ggaacctgaa 120  
 cccccaacgt atcgtctaaa gatttttcgcg ccaaatacaag tcaacgcca gtcccgtttt 180  
 tgggtactttc tacgtaaact taaacgagtg aagaaatcgt ctggcgaaat tctgaacatc 240  
 agcgaagtgt ttgaaaggaa accgactcaa gtaaagaact atggaatttg gataagatac 300  
 aagtcgaggt cggacactat cagtaggtat agggagtata gggacgtgac aattac 356

<210> 2165  
 <211> 281  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-043-Q1-E1-G7

<400> 2165

cccacgcgac catgtgtgtg taacaactat cagcaccaca aaaagatggt tcgtatgagt 60

gtattagccg atgctttgaa atccatcgcc aatgcagaaa gaagaggaaa gcgtcaagtt 120  
ctcatccgcc cgagctccaa agtcatcata cgcttcttgc aggttatgca aaaacacgga 180  
tatattggag agtttgaata tgtggacgat catcgctcgg gcaaactcgt cgttcacttg 240  
ataggcagat tgaacaagtg ccgtgtgata tcaccacgat a 281

<210> 2166  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-G8  
  
<400> 2166

gacgcgtggg atcgactgaa acgagatatg tttacgacgc gtcggaatac ttggcccttg 60  
agagatatgt ttggtcgact cattacgttg cctgaagtaa cgagcaatac caaaatgtac 120  
ctacgagact gttttgatca catcatacaa attatcgata ttttggaagt atatcgggat 180  
agttcgatgg gtctcattga tatttatttg agtggtgcaa acaacagaat gcaagaagtg 240  
atgaaaacat tgacgattat cagcacgata tttattccgt tgacatttat aaccggtgta 300  
tatggaatga acttttagttt tatgcccagag ttggagtatg actatggata tttctttttt 360  
tgggtattgg tga 373

<210> 2167  
<211> 446  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-043-Q1-E1-G9  
  
<400> 2167

ccggctgacc caaacgtcca aacaaaagtt atgctagaac gaaaaaatct ggatagctta 60  
tggacaaacg caaagggaag gttacaaaag cagaagtgtc cgcagtagca gatgttgaca 120  
tgaacgaaca aaatggcctt tatttcaatt tataacaact tgtttgcaag tagagcagta 180  
tttcgtccac aacaagcaac agtttgact ttaactcaag agggatatcc gaaaataatc 240  
atagctacag tacaataag caagactcct atgacatctg tagcggttgc cagcaatgga 300  
ctagcacaat atgcaggatc agtaccacat tgttctaata acaaaggtag aactgctcca 360

gctaccatgg aaaaaatcac tattaaaaaa agagcactgg atacagttaa cgcagctttg 420  
atgttaattg gcacataaac taaaac 446

<210> 2168  
<211> 365  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-043-Q1-E1-H1  
  
<400> 2168

aaccaagcgt cgcatttct tcttcttggt gttgttgtgt gaatttgtag tagtagacca 60  
caaagatgaa cggtgtagta tcttcaggga atatggtgta taacacgctt ggaaaaagcg 120  
gcttattagt atctaaacta tcttttggct cctgngtcac ttttaacgaa caagtggacg 180  
tcgaactggc ttacagcttg atgaaaagag catatgaact gggttgcaat ttatttgata 240  
acgctgaaac ttatgcagct ggagcagcag agtctatcat gggggaggct tttcatcgag 300  
gtgtaaanga gggcgtatgg acaagagaag acttgggtgt tactacgaga atattcttcg 360  
gcgga 365

<210> 2169  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-043-Q1-E1-H10  
  
<400> 2169

acccaaacta tgagtgccaa gtggcatcga tcttcattgg atcgtggcct ggatcgtttt 60  
ccagtgcctg gttggctatc ttgtcttggt gatagattga ctagtacagt ctttctattg 120  
aatgagacgg tgctaaattc cccatccgtg taaatattac ttcttatgac ggaggagata 180  
aaggattgct tcaaagaggc atctacatct acatcaagga acgagaacta tggactgaa 240  
tatgagtatg ctagagaaag gaatacanag aaaagaacat tgcctttcga ttccaaattc 300  
anactaaaga gaattgcact aaatgacata acgaatatat ctcattctcc ttcagagttc 360  
atttcaagtg atg 373

<210> 2170  
 <211> 281  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-043-Q1-E1-H2  
  
 <400> 2170  
  
 cgcgctccggc aagggaatat cacaacttta ggcagagggtg gtagtgattt gacagctgct 60  
 gcgataggag ctgcttttagg ttgtagtgaa gttcaagttt ggaaagactt ggatggaata 120  
 ttatctacgg atcctcaaat tgtgtctggt gcagttccaa ttccctttgt gacctttcaa 180  
 aaaccctttg aaagggcata tttgggaccc aaggttcttc accccattgc aatgcaacct 240  
 gcaatgagat acaacgttcc tattcgagta aagaattctt a 281

<210> 2171  
 <211> 101  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-043-Q1-E1-H3  
  
 <400> 2171  
  
 aaccaagcgt ccgggcagtc atcagaatta tggactcaga tttgcgatcc gagtggctcc 60  
 ctgcttagtt cggacatgtc catggcttac tatatagtcc a 101

<210> 2172  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-043-Q1-E1-H6  
  
 <400> 2172  
  
 tttgtagaag cgttggctgt tgcataaaga gctatgtcgg aagagtcaga caacgaaggc 60  
 gtggagatca agttagagac tgcacctcat gatcctcgct tccaaactac taaccaagcc 120  
 aagcactgtt ggtcgagata catcgagtat cacgcttgtg tgaaacaaaa aggtgaagag 180  
 gacagcgagt gtcaaaagtt taaccgatgg tacaagtcac tgtgtcctat ggaatgggta 240  
 gaaaactggg acgaacagcg tgccaacggt acctttcctg gtcccgtgta gttgtactgt 300

tccacttggg cccttttgga gtttaactga cctgttgtcc gtattgtcct tatggctttt 360  
 tttgttcaat aaagtt 376

<210> 2173  
 <211> 206  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-043-Q1-E1-H8  
 <400> 2173

tcaagtgaat aaggtagatt ttttaccgaa agtatatgaa aaaattgcag ccttattaag 60  
 ccaaaaaaat ttgacaatcc tagaaaagta aacttgaaat ttgcgtgaca aaaagaaaga 120  
 aaaagggagg aaaagggggg agaaaaaaa aaaagggggg ggaaagaaag ggggggagagg 180  
 aacaaaagga tcaaacggg gggggg 206

<210> 2174  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-A1  
 <400> 2174

acaaatgcgg agtgactaac tattttgatt gctgcttaca ggaagctttg gaatggcgac 60  
 tcccaactca gaagatgaca gcgtttggaa agaaatattc cactcattca ccagcagatg 120  
 gtcgcaaagg ctaaacgctc ttccagagct tccttcgtat attagaagtg gtgctgcgtg 180  
 ggagtcggtg acaagaaagt tccatgactg gaaagaggca gttgtggcaa atccttatcc 240  
 tgctgcagct tatgtggtga cttttggtgt tctgtatggg aggcttctat ggacaataag 300  
 agtgtcaaga atagaagagg ctaggatcag acgtactttt caagaagtga aggatcgaca 360  
 agctcgagaa aaagcaatac aacagcttcg tgaacaaaaa ctaaactct 409

<210> 2175  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-A2



<400> 2175

accacgcgtc cgggatggag tctcgtgtga cgtggatgct gttaaatact actcagtagt 60

caacgctgca gctgccatat gtaacgttgg aaccgacgcc aactctacgt tcctgcttgg 120

gcaaaccaca ttacggagtg ttctccgaca cgtagacctg gataccttac ttgccaaaag 180

agaccaaatt ggagaggaga tgcgtaaagt tctagataag gagacggagt cgtgggggtat 240

acgagtcagt aacgttgaga tacgagatgt cgttttgcca accgatatga tacgtttcat 300

ggctagtcaa gcagaggcag agagagaacg tcgagccaaa attaatttcg ccgatgggga 360

aatttcagtc gagtcaaaaag ttggcagaag ctgctgcggt tatgcaaagg gagccaatga 420

c 421

<210> 2176

<211> 194

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-A3

<400> 2176

accaaagaaa aatcgacaaa cagttcttgg tatgccaaac gcttggcact agctagcatt 60

tatagaagtt ctgagttgta ctggatttcc gatacatcgc aaggccagaa aatgacaaac 120

gcgtttattg cagaatggat acatacctgg gataaaacgg actccaactt gagtcgattg 180

gatgcaaaaag caaa 194

<210> 2177

<211> 367

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-A5

<400> 2177

aaccacgcgt cgcgccacgc gtccgccac gcgtccgcgg acgcgtgggt aaattatggc 60

ggaccatgat caagtggtag cgtacaagcg ttcagaagaa gaaaaatgga gccaaagcaag 120

ggaaaaaaga ttggaattaa tccaaacaat ggaaaaaggg aatgcgaatg gccccctttt 180

cccaaaaaaa aaagctctat tttccaatgt gctagatttt gggaacctgg cttgggttccg 240

gagaaccac tttgcaatta cctgcgaaag taagaggcta ttctgtacct tcaggagaga 300  
ccacggggga agtgggggat aaattgttgg atatattacg tccatcttat caccaggaag 360  
ggaaact 367

<210> 2178  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-044-Q1-E1-A6  
  
<400> 2178

aggaattgtt tttctctact ttaaagaaga actttgagtc gaacgaagcg tcatgggagt 60  
gcagtgtagt tgaaaccgca gttgctgttt ttatccagta ttatgaacag tgtgtggaac 120  
agtactatct agcaagcaaa gattatgagc tacctgggta ttccaaagta aaacagattc 180  
ggagtatgat tgaagatgtt ctacagatag agaaggaact tggaaatatg cgtcagactc 240  
ttgttggcgt tcggagtcgt ctttgtactt tcgaagctgc atcaagcagc gaaactcttg 300  
tgcaatgggt gtatgaaaga aatggaatga actcttgttt gtattcttgc ttacaggtac 360  
gtactctgtt gcgtaatttt gacttgggga attttanaga agtgtc 406

<210> 2179  
<211> 345  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-044-Q1-E1-A7  
  
<400> 2179

accacgcgt ccggaagag aaggaataaa caagaaggaa taataaccaa aaagtgggta 60  
atccaaaagg aaaaagccca aaaaccaaga ttaaggatca aagttaagaa agaaaggaaa 120  
agggaagaag acaaggtaag cttaaaaaca agaaaccaga gaaggaaacy ttaaagcatg 180  
gaagaaaaga aattcgaaaa agaacagaaa aaggtagaa agaggaccga atcaaggtaa 240  
aaggttaagg accaagaaga taagaaaaaa tccggggtgg tttatcaaaa caagaaaagg 300  
gaatttaaag gttaaaaagg ggaagggttt taaaaaagg gggtt 345

<210> 2180  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-A8  
  
 <400> 2180  
  
 gatagaacaa accctgtcca actatttctt tgatgatctc gagtatattc ggagaacagt 60  
 agcagatgag aaaccacaaa ttgaagagaa gcttcgacac ctttgtgatg actgtcattg 120  
 ttgtgtggtg ttcacgacag gaggaacagg ccttgctcca agagatgtga ctccagaagc 180  
 cactattgca gtgtgtgata agttgttacc tggttatgga gaagctatga gaagtgtttc 240  
 gagggaaagg ggagttgtaa cagccatact ttccaggcag caagcaggaa tccggaatag 300  
 aagcatcatc atcaacttgc gaggttcaac gagagcagtt gaggaatgtt tacaagttgt 360  
 tttgccttcc ttggcgcatt gtgtttcgtt gttacaagga gaatctattt tgcaccc 417

<210> 2181  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-044-Q1-E1-A9  
  
 <400> 2181  
  
 aggactcncg tcttcaccgt cgtcagttgc ttccaagttg ctccgatagc ttttcgtaga 60  
 aactgtttgtt tcgttagaat aatctgttac aacaatcgtc atcgtttgtt tggttgtggt 120  
 attcgacca atatattctc gtggaatttg gaaagaagag ggttaccaag aggaaaagta 180  
 tcttttattc atagcagact cgtacatctt ccatcagaag ttagtggtac tagtatgacg 240  
 accagagaag tgttggcaac tcgagtaacg gaagcactca acaacttggt tccagatgaa 300  
 gaaagtccgg atccacaact cactgcagca acccgccag aatttgaga ttatcagtc 360  
 aacgcagctt tgtccttggc aaaaaagaaa aagatgaatc cc 402

<210> 2182  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-B10

<400> 2182

aacgaacgaa agtctatggg atattctaga atggatgaaa gtttcaagga aattaaggaa 60  
atacgacaac ggcttttgag aatgcgggaa gatcttgcag agccgtcagc taatgaacca 120  
agtgttctctg tttccggaac gcaagatagt cagtcgacaa agttttcgag ccccgctcgtt 180  
tgacaagtga aagagcagcc gacgataccg ccgatgtgga aggttattgg aagctgttac 240  
ctggagatat gttggacaat gatcgggtata gtgttatgaa tgttggttga aacggagttt 300  
tttccagtgt acttcgtgcc ttggcacata gcaaagatac gactagggaa gttgctatca 360  
aagttattcg tcacaacgat gtaatgccaa aagcaccaca aaaagaaatt tct 413

<210> 2183

<211> 233

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-B11

<400> 2183

tcgaccgcg cgtccgacgg acgcgagggg gatagagcat aacttctaaa cttatttatt 60  
tgaacgcaat tgaagtaata taaaacagtt ttgactaat gaggggaagat cttgcagagc 120  
cgtcagcgga tgaaccaagt gggccggtct cagggacgca agcgagttag tcgagatggg 180  
taccgagggc cgtcgcttga ccggtgacag agcagccgga cgcaccgccc atg 233

<210> 2184

<211> 101

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-B12

<400> 2184

cgcgaggggg aaagagcaaa acttctaaac ttatttattt gacggcaatt gaggtattat 60  
aaaacatttt ttgacgaaag aaggcagatc ttgcagaggc g 101

<210> 2185

<211> 425

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-044-Q1-E1-B2

<400> 2185

aatttgccga ctttggggga aagtatggat ccttggctaa aagcggttgca acttcaccgc 60

caacgaagaa agcgactgga agagaactca gttgatcaag aagcaacttt gggggataga 120

aactacgaag acgaagataa aaagacttca agtcaccgtt acggcaccac aattgagcga 180

ccttcgttgt atgatgaaac ggaaccgttt gctttcgaaa aaaggagtta tgtgaagaaa 240

agaaggaaat acaaagattt ttatgatcgt caaacattca natcacaang gaaacggctc 300

cacttccagg gaanacggaa aaagcggtgt agaaagtcc tacaagaata gtcccagaga 360

tgccaagag gcgtctttta agaacgacaa ctatttgaa aatggctctt ccacganaag 420

agata 425

<210> 2186

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-B3

<400> 2186

cccacgcgtc cgcccacgcg tccgcccacg cgctcgccca cgcgtccgag gatgacaagt 60

ttgccagaca agtacggctt ttctttggag gactatgcat ttctgtttca gagtcaacca 120

aaggaattga taaaggagtt atcagctgat gatatagaag gaacacttcc caaagatata 180

gttggttctt actttctgaa tggtcctggc ttgttcgaga tagatggaga ttggtttcat 240

ccctttgacg gacatggttt cattcgaagt cttaccttta gaggtgatgg ttcttggttg 300

tatcgttcca aatatgtgaa gacggaagcc tacctggagg aaaccaaggc tggacacgga 360

gtatatcgtg gctttggaat gctctcaagc ggttggtggc gcaattgga 409

<210> 2187

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-044-Q1-E1-B4

<400> 2187

cccacgcgac cgcgagacgcg tgggaaaagt ttccattcag catggctcct aaagggtgcta 60  
aaagtgtacc cggtgcaggt aaaaagccgg tggcaaaagt tgaaaggaag aaatcaaaga 120  
agaagagatc ggagacgtat tccatttata tatacaaggt tctgaagcaa gttcatcctg 180  
acaccggaat atccgcaaaa gctatgagca tcatgaattc ctttgtgaat gatatttttg 240  
agagaattgc gtcagaagct agcaaaactag ctgcatattc gaaaagcaag acgcttactt 300  
cgagagaggt acaaactgcc gttcgtcctt tgttaccagg agaacttgca gaacacgctg 360  
tatcggaacg tacanaagca gtaacaaaat acacttcttc ttaacggtac aacaagtgt 420  
ca 422

<210> 2188

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-044-Q1-E1-B5

<400> 2188

cctttgcgca gttggaagat aagataagtt ctgcagtgtc agctgctatt ggaaaggagt 60  
tcaaggctac agtgggtcct tctgtcgggtg gaggatgtgt cagtgataca agagttattc 120  
tttgtaaaga ctccgacagt ttgaagtttt ttgcaaagat cggcactcct gatgaagtaa 180  
gcatgttggc agcagaatat cacgggggtc tggaaatgta caacacgaaa accataaggg 240  
tgccgaagcc catttgctat gacagtacag accgctttag ttttctgac cttgaaaacc 300  
taaatatgac aagtagagca ggaaggaagg aatatgggtt gttgggaaaa aaccttgcca 360  
aaatgcatcg ctgtactagt gacagaggct ttggttggca cagangaaat 410

<210> 2189

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-B7

<400> 2189

agaagaagag atatgcggtg gtggacaagg caacttggtg tttctacaac aatcacaaca 60  
 aaaagtgttt ggagtagata cttttctcat tgtcgggtaca acaattctgg actactagtt 120  
 gcttccacca acaacaacta ttcagagttg ggttgaggga gatatggaag ttggcctcaa 180  
 agaatagcca gtataaacgg gatagatgaa ctgggtgaaaa ataaaaacct cgtacgggaa 240  
 tattaccaag gaacgagtct taatgtctcg ttgctattcg atgaacctct gaatggttcg 300  
 tctctgagtt gggaggacga tgatgatgat tcttcttctt ctggttcttc tggttctgag 360  
 agtgacgata gctttgattc gtcacgat gaggatagct cggatgatga 410

<210> 2190  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-B8  
 <400> 2190

cccacgcgtc cggaggcggc aagtgttgg ttgttgctcg aaaacttttc agctttggaa 60  
 tatgtcttga aaagaataga ccatacttca ttggaacagc tattagaaca agttacccaa 120  
 gaggttcaac aaatattagc agacgtaata caatatttgt tagaaaacag gcaacaagtg 180  
 gaatatacag tgaaacaagt caagcagttt caacagagtt ggataaagat agagaaaaaa 240  
 gtggcgcaag tagagagtca actaagctta ttggaaaagg aagtagcaaa ggacttggaa 300  
 aatagcgcca aaaatttggg agaaaaaaga aaatatacca actggaaggt cgctttggag 360  
 gcactgcaaa gaaaaaataa aactttgagc agtgcttggc gt 402

<210> 2191  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-C1  
 <400> 2191

accacgcgtc cgccacgcg tccgccacg cgtccgattt tattgcttgt cgtacgagct 60  
 tctggtacct atgcttctcc tttattccat acttatcggt cctcctcgaa cgatacgatt 120  
 gctgcagaat tggagaagat gaaaaacttc acaactctgt tgagtctagc caaaattgcc 180

aatctgacta gtacttttga aaacgcttct cttgcagtta cgctctttgc accaacagac 240  
agcggaatct cttcaacact caaagcagtg aatatttcgg caagcgccat agagaaaaac 300  
agcactctgg taaagatgat actcgagtat catgtcgtac ctgagccatt aaagacttcc 360  
aaattctccg ctttgaactc ttacaaaact ttggaagggt tcaatatcac cgtgac 416

<210> 2192  
<211> 268  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-C10  
<400> 2192

accacgcgac cgcccacgcg tccgcccacg cgtccggtca ctttgccatg gaagctttgg 60  
ggactcgttt gacgatgcta acaactccaa aacccaaaag ttgataacaa agtatttacc 120  
aaactattca atctgtgttt tcaaataatc taggagcaaa atgtataaaa gtaagaagcc 180  
gtagaaagag agacctggaa acgaattttc ttcggtgtaa atatcttctt tgtttgctct 240  
aagttaccac tctagaagca caacaaaa 268

<210> 2193  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-C12  
<400> 2193

accacgcgac cgatgacagt tggaattgta acagtagtaa ttcattaacg aaagagacca 60  
actcagcatg cttttggcgc aacgagtcga ttttcaaagg atacagtaca ctttgttcaa 120  
gatgaatcta gtcgttactc caatggacct atcatggata aagatttaga agagtgggaa 180  
gcagatattg acgcggaagt ggaagctttc cgtaagagac tcgaggaact tagtgcgcca 240  
ttgaagaata agccataggt cgggtgccttt ccgcatcggt ccaggacatg tgagcagtc 300  
ctaaggaagc tttgtaccac aagttttcag agtacaaatg agaattcgag taaaacgagt 360  
agcgttggtg tcttatgaag tgttcta 387



<210> 2194  
 <211> 140  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-C3  
  
 <400> 2194  
  
 aaaaaaaaaa aagatatact tgtgtctgta aaaaaaaaaa aaaaatcggg atatgctcac 60  
 caagacacat aaaaaaaccc catgcaaaaa actataaaaa aaaaaaaaaa aaggggggggc 120  
 cccccaagg atctaacctt 140

<210> 2195  
 <211> 366  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-C4  
  
 <400> 2195  
  
 attgagcatt gttttggcac tgtttttttt ggggtttcac tcgtgtgttt tgtcttgaca 60  
 aaactcgaag aagactatct atttcttggt atgtttgaga gttatttcta gaccgtgttt 120  
 ttgggggtgt gtactcctg tcttggtggt tggatgaatg ttctagtgc aaagaaggtt 180  
 gtcactttcc cgccattctc cacagcttca actaccaact tgtatacgcc cacaactgca 240  
 caactatatt actacagagt cgtggtgtag agcgacaagt tgaatgggtt aaaaggcttg 300  
 gtgaaaagtg gaagactagt gagagagagc acttgaaaac ttgtaaaatt ggacccccctg 360  
 gaaact 366

<210> 2196  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-C5  
  
 <400> 2196  
  
 aaataaacta tttctgcacc aaaagaatag ttaaggatct aggccacaaa ttaacagggt 60  
 aagggtatgt gcagaaccgt tcaagtgcga attagaggct ttagggctat ccttattttg 120  
 gatagagctt ggttctcgct ccacatcaaa attccaaacg atagtaaaaa caaatagttt 180

ggcatccgct tgaatctttc aataccccta tcttatcatt gtaatgaagg attttgagtt 240  
gttttactgg ggtggaagat cagaaggaag aatggtttct acgacagaag aatatcgcat 300  
ggattaacta caagtgaaga tgattgggaa ctcttttgaa acgctatgac agaggatata 360  
ctcaaagcct tgtgccttta accatagaaa cggacaacta ctcgaggaat c 411

<210> 2197  
<211> 223  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-C7  
<400> 2197

caagggaata gatggctatc tttggtacat cgtggcagcc ggaagctttg tgatatggtg 60  
gtcattcctt gccttgttta tattcaaaaa cagatcgcta ttaaactatt tgaacaattt 120  
gtacaagaag aagaggaaag atatcaactc aataaagtag tatggcactt gtatcattcc 180  
tctaaaacat aaaaacattc ataaaccata acttaacact agg 223

<210> 2198  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-044-Q1-E1-D1  
<400> 2198

accacgcgtc cgagaagggg agggaggagg atgcaagggtt ggaagaaacc agtcataacc 60  
gatgcttttg gaaacagagt aacttatgtg ttgaaaagat atttcaacgc acctactact 120  
ggagaagagt tgccacattc gttgggtggt catgtgaccg atgcagatac gttgttacgg 180  
caciaagggc tgggagaaga aacagcgtat tttctgaaag aagacgctcg caagtttgaa 240  
aagttggcaa aacagttgaa aagtgcgttg aattcagga aactaatgac aaaagaacaa 300  
ctcaaagtgg ccatggaaca gagaggaata caagtatctg aagagggtta nangacttgc 360  
ttcgtctaaa agagcacatt cgattctcgg atgc 394

<210> 2199

<211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-D11  
  
 <400> 2199  
  
 acccaattaa agtagttgtt ttatatattcg ctgatatgcc ttgttttctc aaaacatatt 60  
 gaaagctttt gaatgtgtta aagagactga tttttcttta tttttgtttt cgtgctagaa 120  
 ttgttttatg tttcctgttc gtcgcctttc ttctatttct aaaggacaag cctttgaaca 180  
 cgctgtgttg ttgtatcttt cctacttggg ttttttcata cgtagtactg gaggagttag 240  
 tgacggcggt atcgactttc gtggaacttg gaaacctaataaagcaatag agcctgtacc 300  
 tgtcgtcggt cagtgtaaag cattatcagg aaagggttgggt gttcacgtta tcagagagat 360  
 ggaaggaatc ttgtgccgcg aagagcctgg taccttgggt gctataatg 409

<210> 2200  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-D12  
  
 <400> 2200  
  
 aaaacattac acttgtacaa tgatgagacg cttcttggtc gtttctgtgt tcttcatgct 60  
 atatgtttcc taatatgggtg ctattcatgc agctccttta tccatgcac atctacaaga 120  
 ttcgtcttta ctatacaaat ggcaacaatc agaatcctta ccaacttaca agagacagac 180  
 tgtcaatgca accgccgctc caactccac agtcagtgtc ggagaaacag atattcaaata 240  
 tggattcact ggggccgcag taagaatggc tcaaaagttt ggaatgctgc catccaaaga 300  
 acgaactgta attacgggtg cacaagatga cgctgcggat gcgctcatat tggagaatgc 360  
 ctgccttat catgtcattc aagtggaata tgttggcagt ccttc 405

<210> 2201  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-044-Q1-E1-D2

<400> 2201

agcagggtcca ataacggaag tgacaatgag agtgagcgtc cttcgcgact ttcgcgagaa 60  
aatagcaaaa agcgtcgggt aattgtatgt gttgctgggt gtgtgacggc ttctgaaatg 120  
cgtttggtt atgaactttc caagaactcc aatcatgatg ttattattgg tggctctgta 180  
atattgacac cgaagaagtt tattgagaat ctgaacaacg tagtgcaaga ttttggaat 240  
ggtaatcaac tttctccgcg tggttcgtcg tccgcattga natagtttcg gatattccca 300  
atctcatcga ataaagtgt caacaacggt tgtgttgggc 340

<210> 2202

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-D3

<400> 2202

aggacgcgtg ggcggacgcg tggggtcgtc ccattgggat tctcattgtt gttgttattg 60  
aggaacacgg aggacgacag tagcgatggg attgttttagt agactgtttg tgaaccgag 120  
tcgtgtaccg caaagagtcg tagagtttca aaagcgcaag gcggaagggt acgttacata 180  
caacgccggg aagtacgacc gatacatcaa cacacctatt tacctgtttg tgccttcac 240  
cggcttttat gcccttactg acggttgtct ttgggcggca ggaaagaacg aaagtcaatc 300  
gtgaatagcg ttttttgtcc ctgtgggaca gtcttatgaa ctagtgattc ctttgttctg 360  
ccagtttttag tttctgtaa tgaaagtttc cttttttttc cttgc 405

<210> 2203

<211> 305

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-D4

<400> 2203

gtctccaaga acaagtgcag aaaatgagaa aaaggaagct atagctaact tagctgtcat 60  
gtttccaaac ttgtcgcgca ctgagttatc gaacgctttg gaagctaata gctattcagt 120  
tcaaagaacg gttgactaca tactctcgga aaagtctctc tctcaccgc cgcgggcagc 180

agaagatgcg tccgaagttg ccgctcgcat cgctcaggta gaggaagacg aacgttttagc 240  
 tcgtgccttg caaagcgctt atgaacggga aaataatggt gaaagacaga ccatgtctcg 300  
 aacga 305

<210> 2204  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-044-Q1-E1-D5  
 <400> 2204

accacgcgtc cgcccacgcg tccgcccacg cgtccgccca cgcgtccgcc cacgcgtccg 60  
 cccacgcgtc cggaaaatgc tagattttca tcgaaagcat ggcggaatgg gcacaatctt 120  
 agtcactcag gtggaagaac caagcaaata tgggtgctgtt ctttttgaca agaccgggaa 180  
 gattgaacgt tttgtagaga agcctccaaa gtttggtggg aacagaataa atgctggagc 240  
 atatttgttt agtcctagta ttttgcagaa gctgggtttt agagcgaaact ctatccagaa 300  
 cgaagttttt cccggaactg gctgccgaaa ggactgggtg tatgcagttc gaacttgatt 360  
 cgtattgggc ggatattgga caaccaanag attacttgac tggaat 406

<210> 2205  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-D6  
 <400> 2205

acggacgcgt gggagagatt ggaagagtcg tcttggtgaa ctatggcaaa gaccgaggca 60  
 aactgggagt cattgtggat gtagtagatc ataatagggc gttggtagat ggtccactca 120  
 cgggacttgc gagacaaacc atcaactgga agagcttaac gttgaccccg ttcaaagtaa 180  
 agattcaaca ctccagtcgt acaggagttg tgagaaaggc atgggaagag gcgaaaatca 240  
 cggaacaatg gcacaatacg gcgtggtata agaaactttg tgcacgaaga accatacaaa 300  
 aacttgaga ctttgataga ttcaaagtga tgattgcaa gaagagaaaag tcggctatga 360

ttcatagtca atggaaaacg ttgaaatcgc aacatcagta aaacatt

407

<210> 2206

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-D7

<400> 2206

acatggttgg atatagtgac tctggaaagg atggtggcag attgactagt gcatgggaat 60

tgtacaaagc tcaagaaagt gtcaccaagg ttgcagagaa atatggaatt actttgagat 120

tctttcacgg tcgtggtgga acggttggtc gtggtggagg acctcagcat cttgccattc 180

tttcacaacc tcttgggtact atcaacaaat atttcagagt tactattcaa ggggaagtta 240

tacaacaaga ctttggtttg cctggtttgg cagacaggac attggagtgt tatttgacag 300

ctatcttgaa agccgaaatg atgccttatt ctcaagtga agctgagtgg agagaactca 360

tggactcgat gagccaaata tcttacaaaa catatcgag tgttgtg 407

<210> 2207

<211> 397

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-D8

<400> 2207

ctttattata ttaagtttat cctcctttgc attttttagac gccgttccta gtcgacctat 60

tctttttcct ttggaagaga gtcaatgagc actagttgga ttcttcgttg tataagaact 120

tatcatcgac tcttagtgga caagccagtg ataaccaa atcagtaacttg tggatttctt 180

tcttttacag gagacataat ggcacaaact atcgaacaca agtactcgat gaataacaac 240

aacaacaata acagccaatc gaataacttg agaattattgt ctcgtatcga catgggacgt 300

actttacgtt ttacttcctt tgggtttcct atatttggtc caagtgtca ttattggtat 360

cgcttcttag ataagttggt tcccaaagcc actactc 397

<210> 2208

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-D9

<400> 2208

accacgcgac cgatttggcg gaagtcgatg gaaatcttaa gacctgctgc tggatgatcct 60  
gttgggacgc ttagttttgt cattgcaact gtacaaaaat ataaaaatta ctgtacttgt 120  
cgtgctgtat atggccagaa tacctgtatt ggtgggttatt gcaagtttca agagtctttg 180  
ggtgggtcgca agaattgacag aagacacagt tggcagatga caacacgcaa agaaagcaat 240  
agtttcttcc agtttctgca aaaagtagtt aatccaccaa aagatgatac cacattgcgt 300  
aaatatcatc aagtcgttca acgtatcaac caactggaaa gcaacctaaa ggctctctct 360  
gatgcagagc tgaaagaaaa aactcgaata tttcaacaaa gactataaaa 410

<210> 2209

<211> 229

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-E1

<400> 2209

agaaagagggc aaatacggga aagcagtaaa agaagaaaga gaaaggaaaa aactgagtat 60  
caggaagaaa agagggagta gatgaggaaa gaaagatcaa ggaagtaaga gtaagagaag 120  
gagtaatgtg aatgaaagca ggaaagtatt tgaagaagag agtgtaaagc gcgtaccttt 180  
tgcataatgt cccagcgagt gaaagaggaa gcaaaaagaa agaaaaaga 229

<210> 2210

<211> 290

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-E10

<400> 2210

cggacgcgtg ggacgaaaca tcataggaat ccgttggtgt cccctgacaa gtatcactag 60  
tactgggtata actaacgcct attgatataa ttgaacttcg agtaacgggt gttagaaatg 120  
tcccgccttc cggtttgaaa ctctcaaaa tattttggct ggtctttccc ttgtcgtcaa 180

cgatatggtt ctcagaatgt ctatcatgca aggggtacact agcttgagta atagcaacga 240  
gagaaattat agcaaataga aagagtaaac ctttgaagac tttcatcttc 290

<210> 2211  
<211> 260  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-044-Q1-E1-E2

<400> 2211

agggtgtatga tgcangcaaa gaagtgcgc agtagatcag agagtaacac atgcaagaag 60  
gaagaagcag agaaggacta tgagcgagaa ggtggatagt cgagaggga aaagcccaga 120  
agccaagata aggtatcaaa gtaaagaaag aaggaaaagg agaagaagag aggttacgct 180  
tagaagcagc aaaccagaga ggaaagcggt aaagcatgaa agaaaagaaa tccgaaaaag 240  
aagagaaaaa ggtaagaaag 260

<210> 2212  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-044-Q1-E1-E3

<400> 2212

accacgcgac cgcaacgaga cacttttaag gtttctgtgg gttggactgg cttgccttgg 60  
aaagtaagcg ttggtcctga aaggaacgaa ttcctccct tgttgctctt gttttcaacc 120  
tggtgttttg aaagtaatac gatacagtcc aacgctgaat tggttgggtc acaaggagtg 180  
tctaagaaac gacagttttc ttgtcatcag tggattgtan ggaatacgag aaatacggaa 240  
gatggaatag aattgtatcc atcgtcgtag atagataacg aggacatata ttccaagaat 300  
attggaagaa acacacatca atatgtcgtc caaatcctgg tccaagtagt gcgaagacga 360  
cctgtatatc cacagctagt ccaacaagtg atg 393

<210> 2213  
<211> 395  
<212> DNA



<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-E4  
 <400> 2213  
 gcaaagactg ctctgagttg cctcttttctc tcttttcctta tcgctgccgc agttgcagcc 60  
 gacgtagttt cagaggagag atggggatat gctcagcaaa cccaacaaca gcaacagtgc 120  
 caacaagtat gtaaacagta tgcatactat cagagtccag tctgcacttc cgtaaccaca 180  
 cagagcccat actggacca atgctcgaag actgtgcaaa cctttgtccc aagccagtgc 240  
 agtacttata cccaaatccc ccaaaatgga ccaatggcac acctacaaca aactagcgt 300  
 tacaacccaa tgcaacaagg ccgtagctac ctatactcaa acctgctgtg cttatgccca 360  
 acaaacttcc tatgcagtca gtaccgagca atatg 395

<210> 2214  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-E5  
 <400> 2214  
 aggcaacttc aaggtaaggc ttgagctcca gttgcatctt tgtcgcaaac caacttatcc 60  
 tgttggcaag atgttggttt atcgtcgcga aaaaacatta tttgtttcct cgtttacacc 120  
 ttgtttctac gccaaatttc tgtcaagtat aagaagaacg aacctttcaa tttgtaggaa 180  
 aacaaccagc aaggagtgtg gttacgtggt acgcatgggc gcagataact tgagtagggt 240  
 gtctctctgc acttttctat ttattactta aaaagtaaag agttttggaa agatttttgg 300  
 gctggtggct ttcttgagg agaagcttat ttgaaggagg tgatagagag taactttcaa 360  
 aagccagttc caggactcga tactagtgga gtaacgggac aagggaaga aaag 414

<210> 2215  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-E6  
 <400> 2215

acccacgCGT cGccccacgc gTccgagacg tTtgaaaggc gTccagtatg aaaggagaca 60  
 caattgtacc acggtcaatt cttcaaactc gccgaaccac cactaactgt gaaaatgcag 120  
 taaactacca ttaggacgga aggaccccat aattcttgac aaaatagggtt aaggaaggaa 180  
 agagaaccat gaattacaga agttgggtta aaagatgaag gacaattgca tgaggatagg 240  
 gactctacgt gattacggaa aataccctta acacattttg gcgggggaaat taacacctaa 300  
 cacagtgtat tttagcgacg caagggcatg agagatgtat aataccagaa ccattcttga 360  
 agaagcagac tgatatttca caggggga 388

<210> 2216  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-E7  
 <400> 2216

aagacatagt gaaaaccact cgcaagttga cacttccga aaagacagaa cagaaaaaag 60  
 gcacagaagt gaacactcga ggcattggcgt tcgaaagaag acaagtcaca gccatcgacg 120  
 cgagcgaaga cactgacacta gtaacacacc aaaacatgat aatagaaacc atagtgaggc 180  
 gggtgacaaa gtagaagaga tgagagcgac ttattccaag caaggatatg gcttagtggt 240  
 tccaaaagggt gcaagctatc atgggttgaa accaaatgaa gaaagctcgg cgcttagtag 300  
 tagtagtgac aagtccaaga acacaaaatc gagaatgaac acagaagcta caaactcgga 360  
 cgcagtgaaa gctcatcggt cctcgactag tagag 395

<210> 2217  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-E8  
 <400> 2217

gaaaagagag agaagaaaga aaagaagaga aaagccgtac tgaagaccga cacagggtact 60  
 cgaggagaaa ggagacccaa attaaggtga gagaatggac gataaggaa taggcaaaag 120  
 gatatggtat ctgcggtaga acatatgaaa gaagcagcac cgactgttta gcaaaaacac 180

agcactctgc agaaaagaga aaatgtaaag tatagagtgt gcggcctgcc aaatagtaga 240  
gaagaaatcg attaaaagtg aaagcgagta aaagatgagg tatagagaat ggcggtccta 300  
acagtaagga tccaaaggta gcgaagtaaa tagacgtttg aaaggcgtcc agtatgaaag 360  
gagaaacgag tgtagcactg tctagtcgtc caactcagcg aaacagcaat aactgtgaaa 420

<210> 2218  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-F1  
<400> 2218

accacgcgac cgcttgtcgg cagtgttggg tgagaatagt aaaacatgac gagatattcc 60  
aaggaaccag ataacccgac gaaaacttgc aaagctcgtg cttcggatat tcgcgtgcat 120  
tttaaaaaca cgcgagagac gggacgtgct ttgaaaggaa tgagcttaca gagagcaaaa 180  
acttatttga aaaacgtgat agagaaaaaa gagattgtac cttttgtacg ctatcgttat 240  
gggtgttgga gaaaagcaca agccaaacaa cacggttttc ccaacggaag atggccgaag 300  
aagagtgcgt tggatatttt ggacttggtg aagaacgcag agtcaaagtc ggaagtgaag 360  
gggttgaatg tggactcgct ttatatttcc catctacaag tgaatcaagc ta 412

<210> 2219  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-F10  
<400> 2219

acgcgatcgg ctggtcttgc gcattggaga gtcttggcgc catgaataca gttactttgt 60  
atggagtttc ttggccacta acagttgctt gctttttgtt tcagtttatt accgatcata 120  
ggacttgtagg tttctttgcy ttcataagact attatcagct tcttcagat cagatcctgc 180  
acaagtcagc ccacattgct tataccagct tgctgcctcg agttgtgttc aatcagattg 240  
tcttttatct gccagcttt gttcttctgc agtatttgtg agttgcgtcc tgttcctttg 300  
agcccaagag ctctatatgg ctgtatgttg ctgattatcg tttctactcg ttccctcatg 360

aaattatcgt ttacagcggc catccattcc tgttacattc 400

<210> 2220  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-044-Q1-E1-F11  
  
<400> 2220

accacgcgat cgttttgctt cagccatctc cgacgtagtt ctcacatcaatt tgtggtttca 60  
cgacgtggga agaacagaat ctgtcagtta ttccctattg caggctatctt ttgtagaagc 120  
tgcaaaggcc gctgctgaag gtggtgcaat taaaacgctc atgtgctttg tagttcgaga 180  
tacggatcct tcttatacga cggaggaatt gaagaacata ttgttgcaag gggctanaga 240  
tatttggaac actattccaa agtctggaga ggcattcgac gccaagctgg aagacttttt 300  
tgactttgat ttgtttgcct tgccacatat gcactatgaa aaggagcaat ttgaaagaca 360  
gtgcaatgaa ttgagagatc gattttcttca agagtccaat ccc 403

<210> 2221  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-044-Q1-E1-F12  
  
<400> 2221

accacgcgac cggactactt caagattccg aggggtactt ctcacatcaatt tgtggtttca 60  
cgacgtggga agaacagaat ctgtcagtta ttccctattg caggctatctt ttgtagaagc 120  
tgcaaaggcc gctgctgaag gtggtgcaat taaaacgctc atgtgctttg taattcgaga 180  
tacggatcct tcttatacga cggaggaatt gaagaacata ttgttgcaag gggctagaga 240  
tatttggaac actattccaa agtctggaga ggcagtcgac gccaagctgg aagacttttt 300  
tgactttgat ttgtttgcct tgccacatat gcactatgaa aaggagcaat ttgaaagaca 360  
gtgcaatgaa ttgagagatc gattttcttca agagtccaat cccaattt 409

<210> 2222  
<211> 301

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-F2  
 <400> 2222  
 atgtttgttg tctggttgct caaggtgtga aatggcagta gttgaagata acagagtctt 60  
 tggttggtggt cttccttggt cagttagtga agaagacctt cgtgaaactt tttccaaata 120  
 tggagaagtt gttgatgcaa gggttgttgt tgaacgtgaa actggtcgtt cccgtgggtt 180  
 tggtttcgta tcctatgcag aaggttcctc cgtagacgaa tgcattgccg cactggatgg 240  
 caaggatatg caaggacgca ctattcgtgt gaacaaggca atgtctcgtg aacaacgcga 300  
 g 301

<210> 2223  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-F3  
 <400> 2223  
 agacattgac gtagtggttaa atgaataccg agagcaaaac tgtcaaactt gtgagtactg 60  
 aaaatgaagt ttttgaagta gacacaagca ttgtatccct ttctgaaaca ataaaaaacg 120  
 tcttggaaga taccgaagat acagagagca tacccttgcc taatgtacaa agacgaattc 180  
 ttgcaaaggt tatcgaatat ttagatatc actcactcct aaaagaccat tccgcagtct 240  
 gaggaagata ttgagcgctg ggataaggaa ttcctaaatg tagatcaacc aacccttttt 300  
 catttgattc tggctgcaaa ctatttggtat atcaagagct tgttggattt aacttgtaaa 360  
 cgagtagcag atatgatcaa aggcaagaag ccggaagaaa tatgaaaaga gtttaatat 420

<210> 2224  
 <211> 228  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-F4  
 <400> 2224  
 ggaccagaga gaggatgtgt tgttccacta tgttttactg gtgtatacag atatcgttgt 60

cacgagatcg gatacccttc ttaacgtgag agaatggacg ataaggaact atgcaaaagg 120  
 atatggtatc tgcggtagaa catatgacag aagcagcacc gactgttttag cagaagcaca 180  
 gcaactctgca gaaaaagaga agatggccag tatagagtgt gcagcctg 228

<210> 2225  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-F5  
 <400> 2225

cccacgcgtc cgcccacgcg tccggaaaag agaagagagc tagaaaggag gtaaaagaag 60  
 agtaaaagga ctagaagagg tacggaattc acgaggaagg agcgtgaagg aaggaggaat 120  
 cccaagtaat cgaggaagaa aaagcttcgg tgaaagcgtg aacggatttt gtacacactg 180  
 cccgtcaagt tctggaagtg tgctaggagt ggagtaaaca gaaaaggaag taaaaggagg 240  
 gaatgaaggg aagttatggc aaaaacacgt gccagcagca gcggtaaaac gtgtgtagca 300  
 agcgtagagc agaagaactg ggtgtaaagg tcgagtagta gagtaagtgt aaaagggaaa 360  
 ggaaaggaga gaaagacgaa agggatgaaa tgcagagatc tctagaga 408

<210> 2226  
 <211> 187  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-F6  
 <400> 2226

gtccaaccac gcgtccgccc acgcgtccgg aaaagagaag agagctagaa acgacgtaaa 60  
 agaagagtaa aacgactaga agaggtaccg gattcacgag gaacgagcgt gaacgaagga 120  
 cgaatcccaa gtaatccagg aagaaaaagc ttccgtgaaa acctcaacgg attttgtaca 180  
 gactgcc 187

<210> 2227  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-F8

<400> 2227

cgattgaatg tgggtggaaag tcgacgtctg ctttgccacc tctttttggt gtctctcgtg 60  
tgttttgcct ttcgaagctc aaagactatt tacttcctgc atgtttttaga ggattctcca 120  
gatattgttt gtactagtct tgttacatgc ttcctgggtgc gtgaatggct ctattgaagg 180  
caggggtgtc attttcttgc caatctccac cgcttcaact gccaaattgt gtgcgtgtat 240  
atacatatat ttgtagattc gtggtgtaaa aagaagagtg cagcagttga aaagtaagag 300  
cagattacta aggtacctgt agaggagcac ttgagaagtg gtcatgtcct ttacatgtg 360  
tacttttaat agctgttttt gcttgtagag attgcaagtt tagtttagtt gaaaagg 417

<210> 2228

<211> 385

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-F9

<400> 2228

gtaacaagat caaaactgtc aagcttgtga gtactgacaa agaagttttt gaagtagaca 60  
caagcattgt aaccctttct gaaacaataa aagaggctct ggaagatacg gaggatacag 120  
agagcatacc cttgcctaata gtagaaagac gaattcttgc aaagggtatc gaatattgta 180  
gagatcactc actcttaaag accattccgc agtctgagga ggatattgag cgctgggata 240  
gggaattcct aaatgtagat caaccaaccc tttttcattt gattctggct gcaaactatt 300  
tggatatcaa gagcttgttg ggtttaactt ggtaacgagt atcagatatg attaaaggca 360  
ataagccgga aaaaataaga aaaga 385

<210> 2229

<211> 244

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-G1

<400> 2229

gtccgaccac gcatccgcc acgcgtccgc ccacgcgtcc gagcggaaga tcttcctttc 60

gagattgaga aaatgccaga tatctacacc aagtttcgag aaagtgtgga agctgggtgga 120  
aagatcagag aaccgttgga acttagtgaa ggatttccac ccagaccacg ttgtgaacct 180  
gcgtgaaatt ccaacgctta ccgaccttgg actagatgca tccccccgag cagtacctgg 240  
tgag 244

<210> 2230  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-044-Q1-E1-G10  
<400> 2230

cccacgcgac cgccacgcg tccgaatgcc acgtatgata ngagaatatg cggatggata 60  
tgacggatgg aatanggtag cgagttatgg atcgataata acggtgttat cgatgttata 120  
ctggatgtgg ttggtagtga agagttggga gaagggttaag gagagtgagt taagggtggga 180  
aagaatgagt atagagtggg gtatgagtat gataggttat cataactgga aggaggaggt 240  
gatgttagtg aaggggatgg ggtaaggccg agtacgatga ggtaatggaa tttggatccg 300  
tgtggtggtg gttcgagtcc acctaccca gtgggggtaa tggagaggag aagaaagaag 360  
gaagagaagc ggatgttaaa gggaagatgt actactagag taagtgtaaa acgga 415

<210> 2231  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-G11  
<400> 2231

aaatctcaac cacccatgcg caatcatggt agcaatacta gatgtcgtgg tcaacgtgga 60  
taaagtttaa gaaaccgaag ttataacgtc atcgcaaaat cttgcgagac aatatccaac 120  
gaataaccaa accagctatc cgtcgtttgg cgagaataag tggagtgaag agaattctaa 180  
gacttatcta tgaagaaaca cgaaatgtcc ttcattgttt catggcaagt gttattcgtg 240  
atgcagttac ttatacagag catgctcgtc acaagacggt aactgctatg gatgtcttat 300



atgctctgaa acgtcaacgc cgtacccttt acggatttgg acgataaagc ctgcttgaac 360  
aaaggggtgtt tctcaacacc tttc 384

<210> 2232  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-G12  
<400> 2232

agcaagcaca tcccgatgtc gacacatgag aaattattcg acagcaaaga aaaaacaaaag 60  
cagaaagctg atcatatact cgtcgtcata cctgttttggc agtccattta ctattcttct 120  
ctttggatgt gtaagtgtgc cttcttatgg ttgcaactgt tgagaaatga acatctttct 180  
catcagtaac catcctcaca tgacacaatc ctgatataata gcacatgttt gtaactagaa 240  
actatgaaat gatccataat caaaggaagg agataaagga ttcattcccta ttctatgatc 300  
tctattcttt ggagtcgaag aggaatcttt tctagttgtg attctccatt cgtcttctcg 360  
tggttgtaat gttggaaatt gtaaataagag aggagaaaca ctgcta 406

<210> 2233  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-G2  
<400> 2233

atcgttgctg ctatttttgt gcatgtttca ggaaattggc gctatatgct cgggagtact 60  
ttggtatttt catctatatt actgatagcc atgcttacat taccgaaac ccctcgttgg 120  
ctgatgagaa aaggaagaga ggggcagtcc tataaagtat ggagtattgt gcgaggattt 180  
gatactgaag aagaaagaca ggagtttttt gtgatgagaa agacggtgga acgggagttg 240  
gaagagtcta aaaacagata tgtcattatg gatctcgttc ggttacatcg ctgtcgatc 300  
gcaccaatat ttggcactat aatcgcaatt cttggtcaat tcccggaaa 349

<210> 2234  
<211> 413  
<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-044-Q1-E1-G3

<400> 2234

tcgaccacgc gtccgatcat gaaagctgcc gttcttgcac tccttgtctt agcactatgc 60

gccgttgcta ttcaagcttc tcctctagaa gaaactttgg gtgcctttat gccgggtggt 120

tatcaatcgc aaagccaagc accaaaacct agctgttgca agttgagctg tcaatatacc 180

caaatttggtg aacaagttat ccagactcag caagttatcc agactcagca agttatccaa 240

actcagcagg tcatccaaac tcagcaagtt taccaaaaca caacaagtgc agcaaacaca 300

acangtttcg tcagcatacy gacgcaatga ggtatccacg aggggatatg cccaacagtc 360

tgtaacccca agctcctgca ccttcctgtg tcaactggttc agtcaagtgc tgt 413

<210> 2235

<211> 247

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-G4

<400> 2235

caatcacaaa ttaaaaaaaaa aaaagggggg cccttctaaa gttttcaacc ttacttaccc 60

ttgaatgcaa ctttatactt cttcaaaatt ttcacctaatt ttcatttcac tggccttctt 120

tttaaaactt cttaattgga aaaaccttgg gtttacccaa ttaataccct ttgaagaaaa 180

tccccctttc ccaatttggc ttaataccaa aaaggcccgcc accttttgcc tttccaaaaa 240

ttttccc 247

<210> 2236

<211> 415

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-G5

<400> 2236

accacgcgtc cgatggaaga atcgcaaagg cgtgtccaag gcattgtgaa agagtctgtg 60

aaaacacttt cgaagccttg ggcaatatatt attgaagagt tgaatcgtag atggcaaaaa 120

tcttccaaca gacttttgtt agttcttggga atttggtttg gggcctttgt ccttttaaca 180  
acgttgttta cctgcattct tttgtacaag gatagcctca agtcgccctc gagaaaggag 240  
aaatcaggaa ataaggaaaa caaggagcaa gtagttaagg agtcctcgaa aagcccagcg 300  
tcgtctctaa ggcacgagt tcctaaaact tcttaagggg ttttgcgaag aacgcttaca 360  
cttttttctt tatatagtcc ggatcttgca acccgtttga cgtgcaaagt acttg 415

<210> 2237  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-G6  
<400> 2237

atgatgtgga aatctttcac gtgctagtct tctggcatct acttatgtat tctctattgt 60  
ttctgtcttt tccaacaaca acaaaagcta ccaaactctg caactattgt tatcgacaag 120  
taaaaaggag tctagaaaag agcaagttgc tttcaaagaa ttgttccttg cttgttggtt 180  
tcacaccatg ttgttatttc tatgacaact tgccggcactc gtctcgatat agaaagccga 240  
tgtggactat gtgtcagcaa caagaacaac aacaacaaca aatagaaata cttaggacca 300  
taaataccaa cgggggatgg atgggtgatg ttcaagtcaa ccatcagcaa caactttcta 360  
gacatacggg attactaagc aagggtttgt atgaagaact tgtatcgggt gacg 414

<210> 2238  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-044-Q1-E1-G7  
<400> 2238

ggcgtgttgc gaagcgttgt cgttatcgtc tatggcggta ttgaaaagt ataatagttgg 60  
tcttgcaatt cactttacga aaaagtataa ttcaaggagg cgctacaagg agtcatttct 120  
gtgctttagt gcttcgggtg gtaaaccagg gtggttcttt tgacataagc cgaaaattac 180  
tcgcaacggg ctatacgact gataagggtg tgaagaccaa taatgggtgct gttcgagaaa 240  
gtgactttta cgagagagtc ttttcaagaa tagcttcaaa gcgctctgac ttttggaaag 300

aagttttctgt aaccttagta gtctctacca ttgacaccga gtcggataag gttattttcag 360  
 tgtggaacgc gtttggttacc aaagaccgtc agttg 395

<210> 2239  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-G8  
 <400> 2239

aggatgaatcg atcctgtggt cgtcgacttt tgtgtgtctc ttgaaatggc ttccaatctt 60  
 caaacagacg gcaccaacgt tcccactttt aaaattatct tggtaagaga cgggtggagtt 120  
 ggtaaaacaa cttttgtgaa gcgacatctt tctggagaat tcgaaaagaa atatattgcc 180  
 actgtaggtg tggaagtaca ccctcttaaa tttcatacca atcgaggccc tatcgttttc 240  
 aacgtgtggg aactgctgg tcaagaaaag tttggagggt tgagggatgg ctactatatt 300  
 caaggacagg gtgctattat tatgtttgat gtcacttcta gaatcactta tgagaacggt 360  
 gccaaactggc atcgagactt ggttcgagta tgtgaaaata 400

<210> 2240  
 <211> 230  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-G9  
 <400> 2240

agttacctat tccttttgtt ttgcctcctt tgattggcga ccgaacggaa cctcacaac 60  
 caacgggagc aagagcactt cgaggtaaga ctggacactc tcttgattcc tctctttacg 120  
 actctgtgaa aaagaatatg gatctgtctt tgatagaaca accaactgga aataactcac 180  
 gactgtaact ttgcaaata aaatatattt ggttgtgggt tgggacactg 230

<210> 2241  
 <211> 110  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-H1

<400> 2241

aacgtgtgga tgcaactctt cctaccatca aatatatatt agaaaaagga gcaaaaagca 60  
tcgtacttct ttcccatTTG ggtcgaccag aaggaaaagt ggacaaaaag 110

<210> 2242

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-H11

<400> 2242

aaaaaagaca gaaaagcttt caggaggagt gaaacaagaa tatttgtcgt ttttggcgcc 60  
ttttgtgtat caacgttttc tcgtgtgttt gtttacttgg aacgctctgt tgattgaatg 120  
ttttcattct aatttctttg taatcgaaac cattcgaggg tttgttacac tgactgttgg 180  
tgccccctgtt ttagctcttg ccgctagtct ttcgtttgcg cattattatc gacgcaaaag 240  
tatgccgatt tttgcaaagg aagacacatt tttcgagtga tggaacaagg tttgcgaaaa 300  
taaagaatag ttgtgttatt cgttggaagc tttaaaaaga ataataacca aaaagaccac 360  
aacgaatagc cctttccaaa aaattgcaca acct 394

<210> 2243

<211> 351

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-044-Q1-E1-H2

<400> 2243

attacataaa acttaccaat ttggaacatc cagaaccact tgctatactt ggaaggtctt 60  
ggcgagtaac ggatattctt ggaagaaagt gtcgactaaa gcctcttcat atgtctagtc 120  
agaagaatcc aatcatttcc aaaggtcaaa gcttgggaata tgaaggccaa gcagttattg 180  
actccaaaaa gggaacttta tatggaagtt ttgaagttat gaaaagccaa agttttatctt 240  
tatttgtagc gaatatggct cctttaggac ttcgaggaaa acatgtcggt tccaaagtat 300  
ccattccata atatgtattt gtgtgtaaat actggaaaca tttctcaagg t 351

<210> 2244  
 <211> 313  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-H4  
  
 <400> 2244  
  
 tgagcggatc ttacacttca gtaagaagcg tcaatgaaaa tgacgcagac gaactcttct 60  
 caaaggctga gaagaaagcc aaaagtgtc aagcctctgg aatacgtagt ctacttggtt 120  
 tggggggtaa cgcagccaag ttggaagaag cagcagagct ttttgtaaag gcaggaaaca 180  
 cgttcaaact agccaaagct tggcagaaaag ctggtgacgc ttatatgcga gcagcagaaa 240  
 attatgcaca acttcagat ttaagtttcc aaaccgcaac caaatttgcc tgagcccccc 300  
 cttggtttaa aaa 313

<210> 2245  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-H6  
  
 <400> 2245  
  
 acccacgcgt ccggtggcaa ctccgctgtc ttgaaagaca taactgcaag tattgaaaag 60  
 cctgacataa aatggataac taggacgaat ctcagtactt gtctgaattc tgcagaagga 120  
 aatgttacgg ttgacttgtc gcggcagtgt agcttgaagg atatattttc attgaagctt 180  
 ctgcacaata actttaagtt ggcgtgttta aatgatgcct tgtttttagt ttacaaggc 240  
 ttatcctttg ttattactgg taatcgtata ttctgtagac gctcggactt gaatgaaacg 300  
 gaaccattgg agtcctgctt ttcgtttatg aagatatgcc 340

<210> 2246  
 <211> 316  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-044-Q1-E1-H7  
  
 <400> 2246  
  
 atttcgcgtc agggcgtggc agaaatgagt ggtagaaatg gtagcaggaa ataggcagga 60

aagagttggt gtagtggaat ataatgaatc acttgaaatt agcaaattgt caaaggctgc 120  
 ttccaagaga gcgttttagtg aggatatgta ccaggaatgt atccaaacgt tggaacaagc 180  
 aggttccaga cctgatagtc gtggagtcgt gtttacaggt gaatgtgatt tcatttgcaa 240  
 tgggtgtagac gtgaatctac tcaatgcaat gcatgtgttt caggtgataa gcaccgtagt 300  
 tgatcaattg atgaag 316

<210> 2247  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-H8  
 <400> 2247

gcgtccacaa gtggatcatt ccacgttggg aaagatagac ttgtctcaag gcagctttaa 60  
 agtactccaa gactgtgaca aagatttaga atgtgatcat aataccaagt ttcagttgga 120  
 acttattcag tatggtctct tttcacctgg tttttggacg agagaaaatg ttctgctctt 180  
 ctatttggag ctctgtgcag gtgtattcat aagggacact ctctaccttt tctacaacaa 240  
 aggtgaagaa catttgtttg cgagtttaat gctgttggtg gagacacaag tctcactgta 300  
 tgcagacata caaacaact gggagaaacg acactttatc gttggcctca tcgtcaggtc 360  
 tttgtgtgag gaatatcaac gacagtattc agagctatgt tcaccgaatg 410

<210> 2248  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-044-Q1-E1-H9  
 <400> 2248

accacgcac cgcgaagata caagacaagg aaggatttcc ccagaccag caacgtttga 60  
 tttttgcagg taaacagttg gaagatggtc gtactctctc agactacaac attcaaaagg 120  
 agtctactct tcacttggtc ttacgtctga ggggtggaat gcagatattc gtaaagactc 180  
 ttactgggaa gaccatcact cttgaagtgg agccctcaga tactattgaa aatgtcaagt 240  
 cgaagataca agacaaggaa ggtattcccc cagaccagca acgtttgatt tttgcaggta 300

aacagttgga agatggtcgc actctctcag actacaacat tcaaaaggag tctactcttc 360  
acttgggtggt gcgtttgaga ggtggctggt agtgagttta tcttgaagtt gtttttctg 419

<210> 2249  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-045-Q1-E1-A1  
  
<400> 2249

gaccacgag tcagcttgcg gttcattgtc accaaatggg ttccttggtg atggcaaccg 60  
tgggccaact ggaaggaagg atggaatcca attggtcccc ggaggtcgtc caaaaaacgg 120  
cggaaaattc cgtggcccgg ggtaccgttg aaaaagggtt tgggtgtaaag aatcccagtt 180  
ttatagggac aatcaccaac ttcagttgcc aaggggagaa tttacacgac gggatgggac 240  
cggtggcaag agtatatttac ggaacaagtt tgaggatgaa aacttcaact tggagcaatc 300  
tgagcccttt ttattgtcca aagccaattc gggaccgaat gacaacggaa agtcagtttt 360  
cattacagta gtgaagacac cttggctgga tcggaagcat gtagtgtttg gga 413

<210> 2250  
<211> 320  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-045-Q1-E1-A10  
  
<400> 2250

gaccacgcg tcagcgaacg cgtgggcgga cgcggtgggtg gaaattcatc gtttgctagc 60  
agaagaccgt gcaattggtg atgtcagcag tgccaatgga gcacttgaag cggaagataa 120  
tgtgaacaat agtgtttatg atcttgcagc tagtggaag cggaacgaa atgatctcga 180  
caatggttct cagtttgac caaatgccaa gaagcatcga atagttattc ccaaacgtta 240  
caaaactcat cagtggatga ttgtttcaac ttctgcgaaa actggcaatg catctcctgc 300  
tacacagtgc tatacttcgg 320

<210> 2251  
<211> 268



<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-A11  
 <400> 2251  
 tgccaatcta acagtattca ctggttcctt tgcagtgcta cttcttcatc gagttccaca 60  
 agcagcgggtg atcaggggaag cagtttaagt tcgagtgttg ctagtcgcta tgcataact 120  
 ttattatccc ttgctcgaaa agaaggtatt ttggagaaag tcaccaacga tgtgaagcag 180  
 tttcgcaatt ttgagtcgga tcatccggat ttcaagcgct ttttacaaga tcccacagtt 240  
 ccaaaaggcg aaaagcaaca attattgc 268

<210> 2252  
 <211> 232  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-A12  
 <400> 2252  
 cgcgtcaggg tgtatgatgc atgcaataac gtgacgcatt cgatgagcga gtctcacatg 60  
 caactatgta acgctaagcg gtgactcatc atgagtgaag tactggaaca acagtgatca 120  
 cagaagcatg ttaggtatgg gtatagtaaa acccattgca gaagtataag caggaatctg 180  
 cacaagaggg aaggcacatt ggaactgata aaccgtccag tcaagcaaat tc 232

<210> 2253  
 <211> 288  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-A2  
 <400> 2253  
 gagatatatt ggctcgatgg ttgctgacgt ccatcgact ttgctctatg gaggtatatatt 60  
 ctgttatcca gcggataaaa agaattccaa tggcaaactt cgtctcttat atgaaggagc 120  
 tcccatggcg ttcttaatgg aacaagcggg aggaaaggct tcgacgggaa cagaaaatat 180  
 tctggatatt cagccgcact cgatacatca aagaactcca gtgtttatgg gcagttatga 240  
 agatgtttgt gatttagagt cttttttcaa gtctgcatct caataaag 288

<210> 2254  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-045-Q1-E1-A3  
  
 <400> 2254  
  
 gtagtttgtg tacgcggttg ggagagctag atatatttcg tcagagtttc gtagaaaata 60  
 ttttgctaga ggcggagaga tgccgtgttg aggttggtcc atcctttaat gtccttctga 120  
 acaggaaatt tagtgctaata gaagagttgt attctccaag tgcttggaag gaattctatg 180  
 acaaatatatt gtcagaagat ggaatatttt taccacacag aaataattct gctggacctg 240  
 acattatcgt tcgagtgtct gtgcctatag atgctagttc ttccactccc aagaagagac 300  
 agtcttcttt gaccaagta tctatggata caagttccaa gaagagaaga gtctatttga 360  
 taggcatagc attgaaatgt tatggaaagt ctggt 395

<210> 2255  
 <211> 213  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-045-Q1-E1-A5  
  
 <400> 2255  
  
 agcggacgcg tgggcaagca gtcagtgttg gtttctacc gactatatca actagtttcc 60  
 ccctaggaca aagtgaaggt tggcactgtt ccacgtatc taaatacagg gttgggcagc 120  
 gttttgtcgc acgcaactgt cgtcagcttc ggcaaggaac aatcttgata atgtcaagca 180  
 caagctcttc ggacaattgg aaacagcaga tac 213

<210> 2256  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-045-Q1-E1-A6  
  
 <400> 2256  
  
 aggggtggca gtgaagcatg ggatttgcag agttcgaacg ctcttatgag aagtatacag 60

gaggtgaccc atcgagaatg aaagtgtccg tggagaaact agacgaagag caggttccac 120  
 ttcatagaag agactattgt gcacatttgt atattccttt gcgccgttgt ttgagagaca 180  
 actatTTTTT gccgtggtct tgtgaggaag agaaggaggc gtataaccgg tgccaaagaa 240  
 aagagagaag aagaagagaa cgactctata agaaaatcaa ggaagaggcc tccaaagtat 300  
 cggcgacgga agaacaagat gaataatata gtgttggtgc gtcgtctttg tgttggaaca 360  
 ataataactc ctcaaatagt aaacagcttg atttgatttt ca 402

<210> 2257  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-A9  
 <400> 2257

aggactacaa aggaattgcc aatgcggatt ggaacataat ttacgacaag ttggaaaaaa 60  
 tcgccgctaa aggtgccaaa gttgtactta gtaagttggc catcgagat ttagctacgc 120  
 agtatttttc cgatcgagac atattttgtg ctggtagagt tccagaagaa gacatgaaac 180  
 gtgtcatgaa agccaccggt gcaagcatgc agtctacagt gaataagcta actgatgatg 240  
 ttctcggtac ttgcgcattt tgaagagaag caagttggta atgaacgtta caactttttc 300  
 actggttgtc catatgctag aacagcgaca tt 332

<210> 2258  
 <211> 284  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-B11  
 <400> 2258

tcatggcgca atgtcttatg tcattcaaga tgaagatggt caaataaagg aagtccactc 60  
 aatatctgcg ggttttagact atccaggagt gggaccagag cacgcattct tgaaggatac 120  
 tggtcgcgct gaatatgttg cagttactga tgaagaagca attcaaggat ttaaactgct 180  
 ttctaggatg gagggattata tcccggccct agaaacagca cacgctgtag cctacttgga 240  
 taaattatgt ccaacgttat caggaagccc caacatagta ctgt 284

<210> 2259  
 <211> 181  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-045-Q1-E1-B12  
  
 <400> 2259  
  
 ccggttagac tctcagattc atacggtaat attgatatgt tgtcaagtat gtattcatca 60  
 tggagcaatg tcttacgtca ttcatagaagc ttattgtcaa ataaaggatg gccacgcaat 120  
 atctgggggt ttatactatc caagagttgg aacagatcaa gcattcttgg tggatactgg 180  
 t 181

<210> 2260  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-045-Q1-E1-B2  
  
 <400> 2260  
  
 agcccacgcg tccggatctc cccagctaaa caataatggt ggctttttgt tgcaaggctct 60  
 ctgcataaga aaagactaag attagtttat acaaatgaca gcaaactttg tatctttttg 120  
 ttctgngta aattttttat ctcccagtgg gttgtttgct gggaaaaggg ttgttttgca 180  
 gatgtgacct tacttgagaa ggaaccaa atccactcct cgtactagtc tgtttgttaa 240  
 ggggactggg gagaaacttg gtgaaacttt tcacttgat gttgtgcttg gtcgcctcac 300  
 agtcgaatag gctctgaacc tgggtggagct attttgagca gagagccgat agtaaagaga 360  
 cagtcccgcg cctcatgga gaaatgct 388

<210> 2261  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-045-Q1-E1-B3  
  
 <400> 2261

agcccacgcg tccgattcat cgttgctcaa tcttggtgca gatatgacag gtcgtggtaa 60  
aagtggtaaa ggtttaagaa aaggaggtgc aaagcgatcat cgcaaagtct tgcgagacaa 120  
tatccaagga ataaccaaac cagctatccg tcgtttggcg agaagaagtg gaattaaaag 180  
aatctcacga cttaactatg aagaaacacg aaatgtcctt cgtgttttct tggaaagtgt 240  
tattcgtgat gcagttactt atacggagca tgctcgtcgc aagacggtaa ctgctatgga 300  
tgtcgtatat gctctgaaac gtcaaagccg ttacctttac ngatttggag gataaagcct 360  
gcttgaacaa aggggtgtttc tcaacacctt tc 392

<210> 2262  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure 'at all n locations  
<223> Clone ID: LIB190-045-Q1-E1-B4  
<400> 2262

aggcatatgg tacagcacag atgggtgttg cgttgcttcc aatgggtgtt tgagaccgga 60  
actagttatg cgatctataa ttctgtagt aatggctggg gtgctaggta tctacggtct 120  
catcgttgct gttatttttg ttggacaaag tatgcggtgt cttttgagtg aatagcacta 180  
ctttgactct tttgtagtgt ccgaaacgaa ctatccatat tttcttggct ttgcacacct 240  
tgcttctgga ctagcaaacg gtctcagcgg tctggcggct ggaatttgta ttggtatagt 300  
tggcgacgca ngcgtccgag ctacagctca gcagccaaaa ctctttgttg gaatgattct 360  
catccttata ttgcgcgagg ctcttgcctt gta 393

<210> 2263  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-045-Q1-E1-B5  
<400> 2263

caactagagt ggaaaatcan gggatttgct aaaccgggac tttgggaacg gtattttggg 60  
attggaaaac tttgaatgat tttcaaggcc tggaccccca aaaccgcca atgtcgcctc 120

atagttggaa tcctaaagtg actcaagggt ctcataagaa aagcaaaaaa cctattttcta 180  
 tacgtaattg caagattcgt ccagggtattt tattatggga agaagatgtt tctcgtgtgg 240  
 ttcacttgga acgattatcc ttctattctt ctacaacgaa gcgtccatt tctttggttc 300  
 ctgttacgag aaatagtcct cctaccgcta ttattgggtg atttacgatg caccgaggct 360  
 attctgggaa tcaag 375

<210> 2264  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-B6  
 <400> 2264

cgtttcgtcg tcgtcgattt ttccttcgac ttgggcgcca atcttcttct tcttcttaga 60  
 atgaaattga atatcgctaa tcccgcact gggtgtcaga agcaaataga agtggacgac 120  
 gaaagaaaac ttcgtgcttt ttttgacaaa agactggcgc aagagggtccc aggagacgct 180  
 ctaggagacg aatttaaggg atatattttc aagatcatgg gtggacaaga taaggaagga 240  
 ttgcgtatga aacaaggagt cttgaccact ggctgtgtaa gactcttatt aaagaaagga 300  
 gactcggggt gccgatggta cggtatgaga gacggtgaaa gaagacgaaa gagcgttcgc 360  
 gggtgcattg tatctcaga tatagctgtg ttgaacctc 399

<210> 2265  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-B7  
 <400> 2265

cccttcggg ttggttggg caaccttgcc aacgccgga gaacatccaa cgggaagccc 60  
 caccttgatc aacaccagga caaaattaaa tccattgaag gctttgttgt ggggaaaaat 120  
 ttgtccccta tttccttcaa tataatcgtg gggttcatta tctaattgggt tggtgaaact 180  
 ggtggttgga ttcctaccgt tgcagactat cgcgtattga cttcattgga aaaagaccaa 240  
 ctgggaaagg aagctcagtt gcatcaggat agtgcctgag aagaagcaat gttggttgg 300

tggtgatgtg ttggtggtgg attgtgtata tatatagaga gagtgtgtgt gagagaaaat 360  
gcttgctttg tgagtgacca ctctcaaa 389

<210> 2266  
<211> 271  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-045-Q1-E1-B9

<400> 2266

gaccacgccg taagccaagc cttccggttg taatccaagc cagggcaata tggaaacatc 60  
caaatctggt tacaagacca gaagatttga gaatattctg tcagaggtga gtattggcaa 120  
ctagtgtttg ggagtangca tagatgaata tgtctctctt ttttgtagg tcaaagaatt 180  
ttatgaaatt caccgtcaac tccattccta tccgggtgga attcatttgg aaatgactgg 240  
acagaatgtc actggttaagt aataacttgt g 271

<210> 2267  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-045-Q1-E1-C1

<400> 2267

acgggaattt ggtgttttca atatctcggg aggtttcagg gtagttattc aatcattgag 60  
ttcctctata ttcaacgtca atacgtattg atcagaaggg aagaagagca tgtactgatg 120  
gtgttctacc aactggacg ggggcattga tctcaaagaa gggcaaccac tcattagaat 180  
gctgcaaagt tcctgccata gagcattgtt tgatttcgag gtttcttggc atcatagtca 240  
taaaatttcg tcgaagtcca tcgcacagtg caagggtatc cttaagtgtg atttaaggct 300  
atttttattg cgacacggtc caagaaatca tagtgagacc tcccagagta aaacggagtt 360  
aaattatcca aggtacccga attcgtaaaa agacaa 396

<210> 2268  
<211> 327  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-C10  
 <400> 2268  
 gacccacgcg tcagcgaacg cgtgggcgga cgcgtgggcg gacgcgtggg atgtggcgac 60  
 cttccaaatg ttccaacgaa gtttctcttg gctttacctt tttctttgcc acttgcgctt 120  
 cccaaacaag tccgtttctc tgtaaaaagc agagtaaata ggaaacatgt cgtttgtact 180  
 gtcgaatctg ttgggtccat ctatcaagct tcggatgtac gtaattccaa gacttcagaa 240  
 tggaaggctt tagaacaaca cgcaaagaac gttaactcaa agactcactt gagagatcta 300  
 ataactgacc cacaagatt cgaaaag 327

<210> 2269  
 <211> 301  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-C11  
 <400> 2269  
 gaccacgcgt cagagtatga cgatgggtat tgaaagttcc aattcttcct caatcgagat 60  
 tgactcggaa gaactagaag gacattactg atatcgtcta atgcaattgc tagagaacgg 120  
 tcctgggatg agagcaggac tgagagtgtc tgaagacttt attattgctg tggatggctt 180  
 gactgtcgag gaagacgaag ataagatatc tgagtattta atgaagaaa cacgacaata 240  
 tgtcaagcta gtggtttggg actgtctgga tgaagatgaa agagacgttt ccttgttggt 300  
 c 301

<210> 2270  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-C3  
 <400> 2270  
 cccggcctac ggtgttagaa tgttctagtg aacaactctc catcttacga cctggagcag 60  
 ttacagcaga agaaattgaa gcagttattc atatgcctgt ttccgtattt tcgtcatcag 120



ccactaggaa taggaacgat gtccaagtac ctcgagcacc agggatgaag tatcgacatt 180  
atgcacaaaa agcaccgctt gacttgggtga aaggagatgt ggaacaatta agtaaaaaag 240  
tatgcgaatg gaagcaacaa ggaaagaagg ttgggttgggtt ggcagtaaga gaatttgggtg 300  
cacagataac atctgcagat gtgttcagag catgtgggtga aaataactgt ttgtcaagtt 360  
atgccccgaga actgtataaa gctttgagag cattcgatga cagtc 405

<210> 2271  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-045-Q1-E1-C9  
<400> 2271

gacccacgcg tcagcccacg cgtccggttg caaacgacgc atggaggacg atcatcgaat 60  
atgaaagcac tacaacaact tgttgcgttt caacacgata gctttttatc tcatcacaaa 120  
atgaatatat tttatatgcc ctcttcttct cattggaaaa agtcctcact caagtgggtct 180  
tttcctagaa tggcggcatc tcgtccttta tcttgtcatc aagtatttga aataaccccc 240  
gacaaacctg cagttgttgt cgaccaactt tgtgaatcat tcaaaataga aaagagtcgt 300  
gatagtaagc aaccttcccg tgtggaatcc gtgaaacaag tttccattgt tgccaaacaa 360  
cgcggaagttt ttgggt 376

<210> 2272  
<211> 76  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-045-Q1-E1-D10  
<400> 2272

cccacgcgtc agcccacgcg tccgcccacg cgtccgcca cacgtcagct gattcgttgg 60  
cagatgcgtg atgttg 76

<210> 2273  
<211> 186  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-045-Q1-E1-D12

<400> 2273

ccggccgacc aagccgtag ctacggacaa aaaaatgggc cttagtcccc ccggccctgt 60  
tggttcaacg ggcccttttt gggaatcaaa ggcctgggga ccttttgcca ctgacccccg 120  
aaattgaaag aatgccaccc atgccaaaca atccgggaat ggacaaagtc caaggatttc 180  
cggaac 186

<210> 2274

<211> 360

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-045-Q1-E1-D3

<400> 2274

agcccatatc aacgagtttt cttgaggaag tagtggttcc tccggagtca tcagaagctt 60  
tctcacgttt gcagagagat ttagctatgg aacgaagaga gagtttgca cgtttggaag 120  
atcagaagaa gacgccc aaa caaggacgtc ctacttgagg acctgatgaa ggtgtcggag 180  
tcttctccaa cgcttcggac tttggtacga gcaaaataaa gtgtgtggaa tattggggtc 240  
gtcaaagtcg catgttccaa gagtagaacg tgcgtnttgt gtctgttttg tgggtgaaca 300  
acatttgttc ttgtctgaaa tagaataaca gctatgctac aactaagana actggtanac 360

<210> 2275

<211> 396

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-045-Q1-E1-E1

<400> 2275

agcccacgag tccgctttgt gctgcatagt gaaccctgtt attggtgaaa tttacaagtt 60  
gattatagag gcaatagaaa agtatactca actacctcca cgtgcttatt tcttcgtccg 120  
atatagtatt gaagttgaat ctgttctttt ggggtgttttg gaaagacttg cagaagagta 180  
tttggtatca cctcaagcga gaatagacgc agcaaagggg tattgggcat cgttgaatgt 240  
tgtttataga tttttgccc agttgtatga acgttccata cactttcctc ccatgagaaa 300

gcctttcttct atgcaatatt tgaacactcg agtgtatagg ccactttcac acgagattgt 360  
 atacgaagct gatgagttga cggatcattc tatctc 396

<210> 2276  
 <211> 227  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-E11  
 <400> 2276

catggactcg agtacattcc tccaagacaa caaagacaag catctattca ctcttccgac 60  
 aatgaatgga agacacctaa gtggcagcgg tggcgccaaa gtacttgtcg tctcatggca 120  
 cttggtaagc ggcacgttgc agatgttttc catcgtcatt aatggaagcc gctgtgttgg 180  
 ggaatcttac ctatcttctg gtagctcatt atttatgaaa tctccgc 227

<210> 2277  
 <211> 228  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-E12  
 <400> 2277

cacgccgtca gggaaaatac gggaaacaat aaaaaaaaaa gaaaaaagga aaaacttaat 60  
 tacaaggaaa aaacaaggaa taaaataaga aaaaaagatt aaaggaatta gaattagaaa 120  
 aagaataaag ttaattaaaa caaggaaatt attgaaaaaa aaaattttta accccttacc 180  
 ttttgcaaaa gttccaacca attgaaaaag gaagcaaaat gaaagaaa 228

<210> 2278  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-045-Q1-E1-E3  
 <400> 2278

agccaaagga ctggttggat aaggaatatt tagaacagct acagagttgg atgaagaacg 60

gaagtactgt cgtggtagct gccatagacg atactccttg cattgcattt cgcgtcgatg 120  
atgagttgag accggaagcc aaacaagttg tttcgttttt tagagaaaag cacaaaatgg 180  
agtgttggtt agtaaccggt gataacgata gcaactgcatt tgcagtagcc agagcagtag 240  
ggattccgat ggagaagggt gtttctcaag cgttgcctgn ggataaagtt aaagttgtag 300  
aaagtttatt gcagaaatat caaagtgcaa caggaaaggc caagtctcga gtcgtatttg 360  
ttggagatgg agtgaacgat ggtcctgcat tagctgcag 399

<210> 2279  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-045-Q1-E1-E5

<400> 2279  
agccccacgcg tccgtataaa acggccgatg gaagggttaat aaccggttcc aaggaaaaaa 60  
ggtgtttaag gttgggggttt ttggtatgcc aatggggata atatgttggg aaaccgtggc 120  
caatgttggt gaaaattgca ccgccaaggt taccgccgtg aagttgggac aaggacaagt 180  
ggcaatgtcc aatttctatt tcgactttgg gaagtaatgt aggagactca atagttcatt 240  
tcgtgttgca taatatcacc agtgttggtt catcttccag tgcactgaga aggtttgcc 300  
accatttang agtagtatcc accgaatatt gtgtttatgg gtttgaagga aatccagtgt 360  
tcaacgatgg actgaaaaag ttggaacagt tattgcaagg atat 404

<210> 2280  
<211> 294  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-045-Q1-E1-E7

<400> 2280  
agccccacgcg tccggaatga agcatgcac atactgcccc aatacattat agagtaagac 60  
atgcaaatca tgatatttca tcggatatct aatcaggtct acaaaagtgg caatatctat 120  
gggcatagaa aaatgtacga tagtggtaga gtaaaagtta taccggaagt aaaaacctga 180  
atctgataag acgaaaacta cattgggact gataaaagggt ccagacttga gaagtcaaca 240

atgtggacaa tttggcaatg tatagggaaa tatcacccaa taatgaagac taga 294

<210> 2281  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-E9  
 <400> 2281

accacgcgtc agggatcggt ttgtacttga aaacagagac actgtcagtg cgttgaagcc 60  
 gataaagggtg taagtcaaag tcaacagttg cacttgcaga gacactttca ttgtgttgct 120  
 ctcatggaat aactttgacg aaagagaaga ccgattattc tcattcgttg aggattttgg 180  
 ttgtacagct tccttacagc gaacttgagt ttccaggttc ttctcttgaa gtgcctgatt 240  
 cacaagacga tgtagcttat ctgtttcctc ttgtaatcta tggaaatctc tttttgtctg 300  
 taagaactca tcagcaacaa aaccgtacat ttctgcagta gttgggttct ctagaatctg 360  
 cgttgttaatt agcgttgaa gtccagataa aaaactctaa atgcctacgt ttc 413

<210> 2282  
 <211> 272  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-F1  
 <400> 2282

agaaaagaac taagattcat gtaagggaaa caagaaggaa caacttgcgt ttaatcccca 60  
 tgggaaggac ctccaactta gaactaccct tgggaagttt ggcaccagat ttttgtttac 120  
 tggaacccaa gacaaactcg tatgtgtctt tgctggagtt aatattcaac atggcaaaag 180  
 gcttcttgta gatttcatgt gcaaccattg cccttttgta aacatgtgtc tcaaaatatg 240  
 ggccaaatgg gtatagatct taaaagtata aa 272

<210> 2283  
 <211> 315  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-F11

<400> 2283

accacgcgtc agctagaaca tcaggttgaa atgcctgaag aacgttccaa gagaaacaat 60

ggttggaacac aaaaaggaca gcgtcaacaa caacagcacg atatttgaac taaccttttt 120

attgagtgga accacaaaga accatcgcaa ctaaatagact gttgcaatat gtaacgaata 180

accgatgcag tattcacgga attgcaaatt aagaagcaaa tagaatgaca tagaaataac 240

caagtaagac ccgaagctag ctgatcataa gctgtcccag cgaagtaagg ctgaaccaat 300

aactgttgaa aaaga 315

<210> 2284

<211> 154

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-045-Q1-E1-F12

<400> 2284

tttggttgct aacttggttg gtccaaccat gaatatggca acaattcaac aatccaacaa 60

tcatattaag ggggtcaagg ttaactaaaa agtataataa atataacaaa ttaagggtta 120

ataaaacaac tcgaaaaaaaa taatttttgt ggtg 154

<210> 2285

<211> 385

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-045-Q1-E1-F3

<400> 2285

agcggacgcg tgggcttttt cggcgatttc cgctgtacat gatgtcataa tgttaggcta 60

taaaatgatt gtagcgagg gtttatttgc agcttggttg ttgggactaa cttgggttata 120

tagaaccacg tgttgtagac tttgacaaga tccactctaa tagttttctg ttcctgtaag 180

tgttctaaaa attatggatt tcttcgctgt catgcgttcc agaaagggtt tctgtcacct 240

ccattttagt tgtatacatg cgacattgct tgttccacct ggttttttga cactataaag 300

caattaaaaa tgttccactc caaaaaaaaa ggcttgaagt tgattttgaa taaaaagcgt 360

tttaaacttt gtgtcaatag acaaa 385

<210> 2286  
 <211> 108  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-F7  
 <400> 2286

ccagaatatg atgtcataat gttacgctat aaagagaatg taaccaaggg tttatttgca 60  
 acttgtttgt tgggactaac ttggttatat agaaccacgt gttgtaga 108

<210> 2287  
 <211> 311  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-F9  
 <400> 2287

gacccacgcg tcagaggatc tgaatatttg tattttgggt tgcaactcca acgtcacaca 60  
 tcaactgagt ggctcggaat atcctttaag aaagcaacaa tgcaaggacg ctgtaaccgt 120  
 tttgcaatcc atcgacccaa agataacgaa cttaagagat gcgactatgg aacagttaaa 180  
 tcaagtgaaa tacaaaatga gcgaccttgc ttatcgacgt gcacgtcatg tgatttcaga 240  
 aaatgactgc acttgtcaat caaccaaag cctaccaaag aatcaataat acactggtag 300  
 caaactcaat a 311

<210> 2288  
 <211> 309  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-G10  
 <400> 2288

gcgtcggttc tgttaagtta cggcaaaaagg tggtagacaca aaagcaaaca gtaaacagat 60  
 aacaagaatt tttgcttgct caaaagaaac aagcataacc atgcgtgggt ggttggtaca 120  
 agaacgcggt tgagcttaaa ctgttaaccc ttgttcttct gactgtataa agagtcttat 180  
 tcttcgtagc tcagtcctaaa gccgagtttt cctgtcacct aaaaattaga cattctcagc 240

tgtccttgtc cttttttgaa agtgaatata agaatacacc gaggaacttt tacacgccac 300  
aagaacgac 309

<210> 2289  
<211> 247  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-045-Q1-E1-G12  
<400> 2289

gatattgatg atcaatgggt aataaccaga ataagaaatc ctcccaactt ggtgaaagg 60  
tttccaacca caattaaaac tccttggggt aaaatccaac cttggggaag gaaaaattcg 120  
gcaactttgg acggaaatcc aacttaattc aaaaccctt tcaagaattt ggtgaacatt 180  
taacggcaag gttccaaccc aaagctttcc ttcattggta aactggagaa ggaatggaca 240  
aaatgga 247

<210> 2290  
<211> 399  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-045-Q1-E1-G3  
<400> 2290

aggttggagt atgagtggga agataccaac ggaggacgta ccagaccacc cgtttcttan 60  
gagaaatggt tactggacgc cttggccacg cttggctaaa ctcattccta acgaaagggt 120  
tcgagttatt ggaggcggtc tgactataat ggcgttaagt ggtgtgatat tctacactga 180  
actgcaattc cggagaccgc tgcgcaccct gactccggag tggattgaag cagagcgtcg 240  
caaagagttt gcaaaggagc gagagtcggg cccgccagtg gagcttgatc ctatcttgca 300  
caggcgtggc tatcaccact agatagttcg attatttcag tgatttggtg gcagaacagt 360  
tgttgaggtt tgtgtgataa aataaaatgc ccaaagatg 399

<210> 2291  
<211> 399  
<212> DNA



<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-G5  
 <400> 2291  
 agccacgcg tccggtccga cataacaacg tagttcccaa cggtcacttt cataaggact 60  
 ggcaaagaag agtgaaaaca tggttcaatc aacccatgag aaagaagaga agaagattag 120  
 ctcgtcagaa aaaggcagca cgtttggtc ctcgtcctgc caaagggtcca ttaagacctg 180  
 ttgttctactg tcctacagtg aaatataata caagagttag actgggaaga ggttttactt 240  
 tggaagaatt aaagcaagcc aaaataaacc cacgattcgc gcgaaccatc ggtatttagcg 300  
 tggacccgag acgaaagaat cgttcggtag agtctttgga gactaacgta caacgattga 360  
 aggagtacat gtctcgactt gtgttggtcc caagaagac 399

<210> 2292  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-G7  
 <400> 2292  
 agaacagcaa caatgttgaa taacttagtg tgagcgactc agtcataca aagaatcgta 60  
 agttttgtag agagtataaa ctgttctttc ttcgcgatat tgtccaggca gtatgaacga 120  
 ttcccgagaa ttgcagagaa ggtatactgg tcttatgtcg acatctacac gtaaacttcc 180  
 ctgtcctcaa gggacgagct tttatgtgag aagctaactc ctgttcgttt ggatctatgc 240  
 taattgaaag agatcagaac acagtctgaa tcgtggaact cgaacaggac cactcgcttt 300  
 gtacggaaca cacggaaata gtttgtaa atgcttagca ctttgaagaa aactttctag 360  
 tggcagacgc agtattcaat gttcccggtg tagtgaattc 400

<210> 2293  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-045-Q1-E1-G9  
 <400> 2293

accacgcgtc agcgagtcga tcaactgggtt tggatgaagt ttcttcgttt catgtgaaac 60  
 tttttgttat caaattcatc taatcacctc tttgggttgc aagtggatgt gttatcggtta 120  
 cttgtttgtt tgagaagcat aactgggttg tttcgtcatg acacaatttt cgtgtgaaag 180  
 ctttcctttg tagatcctgc tttacgattt ttcacctgtt cacttttttg tattcagtat 240  
 cctcatcacc agaatacata ctaaagtttc tggacgagtt taacatctct aacaattctc 300  
 cgtatcctac cgcaactcat gggaacaatt gcagcatgta aatgaagagt tgtagacttt 360  
 aatcaatctc caagcaggaa ttggtagccc cttaaagact gggcc 405

<210> 2294  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-045-Q1-E1-H1  
 <400> 2294

aggaattccc caaaaggaaa tggccaatt gaaaaccctt ttgaatgaaa ccacaaattc 60  
 tcccttaatt ggccccaacg gccaaaggctt tttgaagcct aatgagtgtg aaattggtat 120  
 tatgccgggt tatattcatt caccgggttg tattggagtt gtttcacgtt cgggcacgct 180  
 tacatatgaa gctgtggatc agacgacgag acatcaactt ggtcagagca ttgttatcgg 240  
 aataagtggg gatccttttc atggaacatc ctttatggac tgttttgata tgtttttgaa 300  
 cgatccgcaa acgaaggga tcgttatgat tggcgagata ngtgggtactg aagaggaaga 360  
 aactgcggaa ctgctgaaga attcatccat aaagaaa 397

<210> 2295  
 <211> 92  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-045-Q1-E1-H10  
 <400> 2295

agaagattgc ttcacagat ccgcggtgga ggcacgaana cacaagttga gaaagcttgt 60  
 accgagtcac aaactcggtt ttcacggacg tc 92

<210> 2296  
 <211> 137  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-045-Q1-E1-H12  
  
 <400> 2296  
  
 gcccgggccc aaccacaag gcaaagtggg ccaaggaagg ggaaaaagaa ggcagtaatc 60  
 aaagacggga aaagaaaaag gcaacggccg ccttttccta aaaaacaaag ccaattttcc 120  
 aagtggcaaa attttgg 137

<210> 2297  
 <211> 366  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-045-Q1-E1-H3  
  
 <400> 2297  
  
 agcccacgcg tccgggcatg ttgccctttt ggctccgggt aaccaatta cagaaacctt 60  
 ttgaccaacc aaaaacggtc caatttgaaa aaatttatat atagtgtgat attttgaaga 120  
 cttgtaatct attggtgcgt ttctttcgca actagtgcaa aaggaagcaa gcgctatcta 180  
 gtgtcgggtcg tattcagttg gtttataagc ttttggctct ttcttccgtt gcaaattggt 240  
 gatacttttt gatatgacta gagataaaga ttgggaggtt atgacaagta tcctggacaa 300  
 agacgatcta ttcggtattc tgacaagatt agacttgggt caactcaaga aatctattgt 360  
 caaaca 366

<210> 2298  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-046-Q1-E1-A1  
  
 <400> 2298  
  
 ttccccgggct caccaccct tcaagacaag gaccctcgg aattcatata aataaactat 60  
 ttctgcacaa aaagaatagt taaggatcta ggccacaaat taacagggta cgggtatgtg 120

cataaccggtt caagtgcgaa ttcgaggctt tagggctatc cttattttgg ctatagcttg 180  
 gttctcgctc cacatcaaaa ttccaaacga tagtaaaaac acatagtttg gcatccgctt 240  
 gaatctttca atacccttat catatcattg taatgaacga ttttgagttg ttttactggg 300  
 gtggaaaatc agaaggaaca atggtttcta cgacagaaga atatcgcatg gatcaactac 360  
 aatgaacat gattgggaac tcttttgaaa cgctatgaca taggatatac 410

<210> 2299  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-A3  
 <400> 2299

gaccacacg tcaacagtca ggacagtcgt ccgcagtgaa cgacttgaaa agagcagtta 60  
 cgaaagctag tttggatagt gaaacaagac gacgaatgaa ggatttaaag aaaataatag 120  
 acgcaacgta tttacaaccg tcacctcgca actccaagtg tgggcctcac aaagttctaa 180  
 agtatattca gcagcgtctc cgtgcgaaag agtggccggt tgtcctgaaa gctttgctgt 240  
 tatgtcatat cttactggac gaacgcagta caggaatggt ggatcttttg catcacacgc 300  
 cttttatcat taacctgcaa gagtttcgtg atgcttccaa cccagtgct tttgattatt 360  
 cctcatatac aaggctgttt gctcgctatc tccaagaacg aattgttact atacgaactt 420  
 tgggtg 426

<210> 2300  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-A4  
 <400> 2300

aacgaaaagc aactcctttc caacccttg aaaagaaaga aataccaagg tttttggtat 60  
 atattgcttt tgttgacgtt attattatac gcaacttggt ttgtagcttg ttcctgtttc 120  
 aatgccttct ttcggtagat ggttatggtt ttcgagagga atagactttt ccttcatggt 180  
 tgtaggagac tggggaagag aatgacatca tcatcagaag aaagtagcca acgctatggc 240

tgtagtcgct cgacagacca atcctcgctt tattatcagt acaggggata acttttatga 300  
ctatggagtg tcttcagcaa gagacaagca gtggaatagt tctttcgaaa gcataatatga 360  
tagttggttg aagaatattc cttggtacgc tgtcttagga aatcatgacc atttggtttg 420  
actgcacaag 430

<210> 2301  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-046-Q1-E1-A5  
<400> 2301

cacacgtcag caatgaggag ggtggtgtgg ttgcgggagt gtggtctttt tgtaagaata 60  
aagtcacgt aaagttgcgc taagaatact gataaatgtc acgcaaccaa caagttgttg 120  
ggtatgggag cacggataaa acaagccgc aagtgatgtg tactgaaaac agtggcgctg 180  
ttgctggctc cttgcgtggc gcccaaccacg aagacgaagc tttggtggaa gcctggattc 240  
gaaaagcttt ttctttgttc gaccaagacg gaaaaagtta tgtggatagt gtaaactttg 300  
cagacgatat ccagcacttg tttcccaact gttaggaaga agaagtcgaa gagttgctgg 360  
aagacacgga ccccaacggt gttggagttg tcacttttga caacttttgt 410

<210> 2302  
<211> 401  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-046-Q1-E1-A8  
<400> 2302

gcttctgtta tggaacttgt ggaagacgag tatgttgcaa tcgcgttatt gctacttttt 60  
gagcataaca aaggagactc atctttcttt aaaccatatt tggacatatt accctctctc 120  
gacgaaatca accccttggt ttggtgggtca gatgaagatt tactgctgtt acaaggcagt 180  
ccaactttat ctgcttggtc gcaactgaga gaaaaacttg tgagagagta tacatatcta 240  
gagaaccata ttattccaca aatcccgaac ctggcccgtg tagacttttag acaatttcag 300  
tgggcatttg gtattctttt ttctagagct atttgttttc ctagtacgaa gagaattgca 360

ttggtacctt atgcagatct gctcaatcat agtccttttt g 401

<210> 2303  
<211> 246  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-A9  
  
<400> 2303

cccacacgtc acgcccacgc gtccgcggga cgcattggagg gtcgcaagga tgccactgga 60  
cctgagactt gtccgatgat ggaagacgtc atgctgccga acaccatatg ccgcagttga 120  
agaatacagt ttatcgtatg ggagtgaccg atgatgagat tactgtattg agtgggtgcac 180  
atactttggg gcaatgtcac agtgaccgtt cacgttatga aggtccatgg acacatcaac 240  
ctttgc 246

<210> 2304  
<211> 222  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-B12  
  
<400> 2304

tgcaccacg agtcagctct agactctgaa attcgcatth ttccaagtaa agccctgtcc 60  
atgacaaaaa aaaaaaaaaa aaaaaaaaaa gagaaaaaca aaaaagatca taaataaaaa 120  
aaagggtgga tgcacaatgg ggtgcaagtc ttattttccgc gtgcatgaga gtcattact 180  
cttcaatttt gtcacctagt ttcagttcgt caggcagtcg tt 222

<210> 2305  
<211> 170  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-B2  
  
<400> 2305

aatttttttt cctttggcga tggggtcctc ctcttataaa ccttttccaa aagttataag 60  
ttaccccaaa atttggaatt tgggctttgg ttggccttgg aaactttgat taaaaacaag 120

atattgtcca gttcctgcac tgaataaaca gtgtgtggag aacaaccttg 170

<210> 2306  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-B3  
  
<400> 2306

cgtcaagaca aaatacattc tegtgtcgt ggccctgttc aaatactcac aagacagccg 60  
gtagaaggaa gagctagaga aggtggattg cgctttggag aaatggaaag agattgtatg 120  
atttcacatg gagcggcatt cttcttgaaa gaacgactga tggatgaatc cgatgcttat 180  
cgtattcatg tgtgtaatat gtgtggattg attgcatag ctgatttaa aaggaatact 240  
ttcgaatgtc gtagctgtcg taacaaaaca gaaatatctc aagtattcat tccttatgcg 300  
tgcaagttgt tgtttcagga actcatggca atgggtattg caccgagaat tgtaactgct 360  
gatgaataag tcttcttctc attccaactc atcccaccat tcactatctt cttcgggata 420  
ttaccaacg 429

<210> 2307  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-B4  
  
<400> 2307

aagagcaatc gcctcttcgt cgtgagtttt atgtaaatac tcgactcatc gtctatagtt 60  
ttgtgtggaa tatatctttg tgtgccgtat tgattggctc tacgtctgcc aatagttttg 120  
gtaccaactt gaatattcca ttgtatcaag atagtgcaca tggaccata gctgcgttgt 180  
ggtatattgt ctggggattt gcgatatgtt ggtctatcgt cgtcatgttt tggtttttca 240  
gacgcaacaa tgccgtggga atatattgtc gtacggacaa cgatgatgca tcctactagc 300  
agtgatagta atagtaatag tagccagga aatacagaga gagaaagatg ggcaagcaac 360  
gacaatcaca atttatacac ataaaccaag atgttttagcg attgac 406

<210> 2308

<211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-B5  
 <400> 2308  
 ccgggcccgc ccacacgtca gatttatatt tactacttgg tgtggacact gtctagacta 60  
 tattcctgaa tatatgcaac ttgcagagaa actagcgcac gtacaagact tgacttttgc 120  
 agcaatacaa ccacgtgata tgccacctat agctagaagt ttagatgttc gttcttttcc 180  
 agtattttat ttgtttttac gcggacaaaa agacaagcct attcgatggt tggcggaaga 240  
 tcgaaagcat cttgaagcgt ggatcgacac atatcgagag aagaatgcac aaggcatcga 300  
 ttctctgtat tcaaaatagt caagtttatg tatatcagaa taaacaacct tatgg 355

<210> 2309  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-B9  
 <400> 2309  
 gacccacacg tccgcccacg cgtccgcccc cgcgtccgcc cacgcgtccg cccacgcgtc 60  
 cggatctaag gaagtttagc accaacttga ttccatttcc acgtctacac ttcttcatga 120  
 ttggattcgc acctttgagt tcaccaggct ctcaacaata ccgttctgct agtggttctg 180  
 agctgactca acaaagtgtt gatgcgaaga acatgatggc agcatgtgac cctcgtcatg 240  
 gtcgttattt aacagctgct gcgtatttcc gtggaaatat gtccacgcaa gatattgatg 300  
 atcaaatggt taatatccag aacaagaatt ctctctactt tgtagaatgg attccaaaca 360  
 acattaagag ctctttgggt gagattccac ctttgggtat g 401

<210> 2310  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-046-Q1-E1-C1  
 <400> 2310



acgaaatgaa tttattaccg cacaagagtt ggaatatttg gagtaccaag aatatagctc 60  
gaattgaaag ggatgaacaa gcttttgaaa aagagcaaag agaagcgcaa aggcaagaaa 120  
ttcaacgaca aagggatgag aggttggaag agttgcgcaa taaagtacac gcaagacaag 180  
aagaaagaaa gcaaggagat gagcaacggt gtttgtcagg ggaaaagaac gaggaaccag 240  
ctcggagtgt gaatacaacg ataaagacga ctttgaaaga aagtttaaag gttccttggt 300  
attcgggtact cgataaagtg gaaaacaaaa cctcaaccat cggagacaag agaggaagac 360  
ccgattgtca aaatacgaga gtgggagaaa caacanaacg ttatacacia ggaaagaaa 420  
cc 422

<210> 2311  
<211> 351  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-046-Q1-E1-C10  
<400> 2311

gaccacacg tcagcggacg cgtgggtttt ttttgaacac ctataccaac ctactattac 60  
tattattacg caagaaatgc ataacaggaa aatgtcgaga gaagcgtata aaagagtagc 120  
tcttccgcag aaaaatctga tgccggttcga ggggtatttcc gcacgtacta ctattatgag 180  
actcctacat attattacta ttatgagact ccgacataat attactatta tgagactcca 240  
tccgcaattc cgaatataaa tccttattgt acctataccc aaatgtgtca gaggatatgc 300  
acgacttgtc caactccata ttaatagtcg tatgatgggt aagatcatat g 351

<210> 2312  
<211> 369  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-046-Q1-E1-C11  
<400> 2312

eggctcgacc cacaacgtca ggtatcgcca aactatatgg acgaactgga agaggtaatg 60  
ttacagggga tttccatcag aagttggaca tcaattccaa cgatagcttc acgggtccaca 120  
tcgaaagtaa tcaacacgtt gctgtcatgg taaccgaaga agacgaatca ccaactatag 180

tgggtgtgaca caatagaaga agatatggca tcgcatttga ttcacttgac aggtcaacca 240  
 atagcgactc caatgtcacc atcagaagta cttttggttaa cttccgaatg ccatacgggtg 300  
 acaacatata gactaccgat gaaccttgca gaccaaataat gcaacctgca acaaatatgg 360  
 tagctgcac 369

<210> 2313  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-C4  
 <400> 2313

aaagaaaatg gcaaatactc gtctcaactt ttctgtcgga aacaactcgt tactggagtt 60  
 tgccaagggt atttaaaata ttctcatcg agaactgcag aaactagatt atataggaca 120  
 acgactttct agtagtggtt ctttacaatt ttggaagcca aagtgcgatt caaaccagtt 180  
 ttgttcttta agctctcttt ggtcgaatga acaagacatt tctagtagaa acaccgacat 240  
 gagagtatgt attgaaagag gatatttagt ggagttgatg ggtgagggat tgtctgtttg 300  
 tatgcgttgg attatctcgg aatatattca ctacttgag gagactccac aatcctattc 360  
 gtttctcgt attatttata tcgatacttg tgcaagtcta agtattatga aatggaacga 420  
 ctatttcaaa c 431

<210> 2314  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-C5  
 <400> 2314

agcccacgcg tccgatgcgt tggtcgtttc tggttgctcg agtcgcccac tggtttgcca 60  
 atgaagttgt cgtgaagaaa cttgcaaata gtgaagcctt tcagaggttt gcagtacgct 120  
 cgtctcagtc tatagaacag ttgatacgaa agggatgaaca aagggttggtt caaaccaggg 180  
 gtaaagaagg tttgacaggt ttgtaagta cttgggggggt ttgaaaggtc cgtagttttac 240  
 atgcagcaat agagttcaga gatagttatt caaagaatag cagaaaaatt ggcaaattta 300

aaaaaaagct aaagtcccag agcttttcgg aggctttgaa agaagaaatg aagcgaacta 360  
tgaagaaata gtaggaaggc ttagaaatag taggaaggat aagaaatagt ttgtataaaa 420  
ag 422

<210> 2315  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-C8  
  
<400> 2315

accacgcgt ccgcccacgc gtccgagcca aagtatccga taaaatacaa ctcacccaga 60  
atttattaca aaaagtggat gaaatggta tcggaagtgg catgtgttat acttttcttc 120  
gagtattata ttccatgccg attggagact ccatttatga tgagcctgga tcacatttgg 180  
tagaaaatat tatgaaagaa gccaaagaaa gaaatgtaaa gatacathtt ccagtagatt 240  
ttgtagtagc cgatcgcgat gctcccgatg cacatacaga gatacgtacc agagaacaag 300  
gtattcctga gcatatgcaa ggactggatt gtggaccaca aagtattcaa caatttattc 360  
aagtagtgca acattgtaat acaatagtgt ggaatggacc tttgggtgtg tttgacatgg 420  
atat 424

<210> 2316  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-D11  
  
<400> 2316

gaccacaag tcagcctatt ctggcatgcc tgacatccaa gggtttattt taagaggaag 60  
attggttaga ttgggagaaa catggctagc caaatgccag taaccacgat gataatcatt 120  
ggttggcatc cgagagcaac aagacttttg ttgcacgata tcagccacag tttggtaccg 180  
attagttgct catcaattag taggtccaat caccatgaga ttgtctaata ttggaggctc 240  
atgcctctgg gcattttcaa ggaatattat gatactgact atcaagaatt cctaattggc 300  
acgttgacac agctatcaat atcacatttg tagagttacg aactcaagat tggcaatata 360

tactggagaa agtagagttg aaaccaatca ttcaacatca tggagtg 407

<210> 2317  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-D2  
  
<400> 2317

aataaaattg ccatagaatc cctgaacgaa ggtagaattg gcatacgagc tcatatgact 60  
ggacttgccc aaggtgcaat ggatattata tttccatatc tacatgagac gaaacagttt 120  
ggctcccgta tcggtgattt tcaaggagtc cagtttcagt atgcacaaac tcgagttgaa 180  
ttacaagcag cgcgagcgca tgtttacaac gctgctcgta tgaatgatgc aagtatatct 240  
attcggaagg aagcagcctt cgccaaatac tacagtgcgc aagttgccga aagaattgct 300  
tccaaatgta ttgacttggc tggaggaatg ggattcgtga aggaatttgg tttggaaaaa 360  
tattacagag atgtgaaaat acgacacatt tatgaaggca ccgataatat ccagttgcaa 420  
acgata 426

<210> 2318  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-D4  
  
<400> 2318

acgcgtccag tcaacgtcga attttccttc gacttgggcg ccaatcttct tcatcttctt 60  
agaatgaaat tgaatatcgc taatcccgc actggttgct agaagcatat agaagtggac 120  
gacgaaagaa aacttcatgc tttttttgac aaaagactgg tgcaagatgt ccagagagac 180  
gctctaagag acgaatttaa cgatatatt ttcaagatca tgggtggaca agataaggaa 240  
ggattcgcta tgaacaagg actcttgacc actggctgtg taagactctt attaaagaaa 300  
ggagactcgg gttgccgagg gtactgtatg agagactgtg aaagaagacg aaatagcgtt 360  
cgcggttgca ttgtatctcc agatatagct gtgttgaaac tcatcatttt gaggaaaggc 420  
gaataggata ttcctgc 437

<210> 2319  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-046-Q1-E1-D6  
  
 <400> 2319

```

cccacgcgtc cgcccacgcg tccgcttata ggagaacagg catgtctaac tggaaggaac   60
gactagactc gtggattgga aagagtagca gtgaatattc caaagggtggc aactcttcgc  120
cagaatgggg ttcatctcct aaattgggta tcagtccttc gaaactaagc aaaagtcata  180
gcgctcaaga agtttggagt aaaacagtgc atccttgggg gcgttcttac tcaggaaaga  240
tacgttatga caccgtggat aaggacacag agaaagacac aagtataatt gagatacatg  300
atctgtccaa gaaacagagt ggcatacaat aagaacagac tttgtgagtt ttcaatacaa  360
tactgtgctt gttgttataa tttcataca tgagtgtaca tgctgttttg ttggac      416
  
```

<210> 2320  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-046-Q1-E1-D7  
  
 <400> 2320

```

cccacgcgtc cgcgctgggc aagatggcct tgtgcaagtc aacaaacata gaaaagtaaa   60
gagattgcaa gaagataata ttttgaatag agcactatca caaccaggag atgtatttct  120
gtgcttttgc aacatccagt tgttgggtgaa tgcagaaaga gctattatag gaaatattac  180
ttgtccagaa agtatcgaat tgtgtcgtct attagctgga catatagcgg tttggttcga  240
tgaacatttg gatgactttc gtttgaagc tatcttggga gcactattgt gtacttggtta  300
ttgtgagtgg aagcgttttg aaggagaatt ggggggtacaa gaatggaatg aattggagaa  360
gatatcttcc ttagataactt ggaagcttgt gcttgggtaca agacaaagag tggataatat  420
  
```

<210> 2321  
 <211> 277  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-046-Q1-E1-E1

<400> 2321

actgtagtcc tcttttgccg gccaaagatg caacaactgg aaatgaggca catatagtta 60  
tcgatgttgg taaattcttc tatgaaagtg cactagagtg gtttccaaaa tatcaattgc 120  
gcaatatcga tgcagtttta ctgacgcatg accacgcaga tcatgtgaat ggactagatg 180  
atttgagaga ttttactttg catatgagag acaactgttg tccacttcca gtatactgcg 240  
aatgacagac ttttcgtaga atacaagcaa gttttcc 277

<210> 2322

<211> 398

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-046-Q1-E1-E10

<400> 2322

aggttccaca ggtgaagtca tgggaatcga cttttcttat ccagcggcat ttgtgaaagc 60  
acaaatggca gcaggaactc ctcttcctt ggaaggaacg atattacttt ctttggtga 120  
agaagataag aaccaagcag ttgtcttagc ccaagacttt atagatttgg gttttcgtat 180  
tttagctact cgaggaactt atgtgcatct catagcagaa ggaatgaatc cttctcaagt 240  
agaaatggca tttcaaatan gagaaggacg tccaaatatt gtggaccgca tcaagaatcg 300  
agaaatccaa ttgtttatta tgacaccggg aatagacaaa gataccgcaa atgagaaaca 360  
agtacgaagg acaagcgttg agtttaaagt gcctatga 398

<210> 2323

<211> 329

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-046-Q1-E1-E3

<400> 2323

caacttttca gagtttcaat tacatactct tggtagattc attatccatg aagtatgtta 60  
ttggggtagt tatgtgccgt ttctattggt ggatgccatt ccgtactttc gaaggtggaa 120

aatacaaaaga gacaagggtta atgatgcctc cactcagtgg aactgtatTT taggagtatt 180  
aagaaatcat tttttgttag tgttgccctc tattattgtg acgcatecct tttttgcgtg 240  
gatgggaacg cgagatgagt taccgctgcc ctctgtcgga gagattgctt ctcaagtgtt 300  
tttatttttt gtcacgaag actttatTT 329

<210> 2324  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-046-Q1-E1-E4  
<400> 2324

acccaagcgt ccgcccacgc gtccgtaat atccaaagca attcctgctg tcatagagaa 60  
acttgtttgc ttgttatatg caatgataga acatcttcca gtagaaagca aagtagtaaa 120  
gtcgtctcta gcggaaatat gtagcggcct tgacggcgcc tcaagttgtg taagctacaa 180  
ttggttgacg ttgttaatTT tgccaggcgt agatatatTT gcacacgaa gtccctgaatt 240  
gctagctttg ttgtggcgtt gtggatggaa atatatgcag aatgatactt attctgttga 300  
agatgcgaag gcaatgaacc tggcttgat gcgaatttat atacgcttaa tgggcatatc 360  
gaagatgagt tctcctcaaa caagtgttcg taaaaagtat ttcgacactt ttcatacaa 420  
aggtgccat 429

<210> 2325  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-046-Q1-E1-E9  
<400> 2325

gacccacacg tcagcccacg cgtccggtaa cgttgtagaa atttcgtctt gttgggcggt 60  
tcagtttgtt ttaagtacca tgtcagaggc tccgcttttt tcggatagac ccataaatgt 120  
ttgtgtaact ggtgctgctg gtcaaatagc ttattcactt ttgcctttga ttgccggtgg 180  
aaaagtatTT ggaccgcagc aacttgtgtc tttaagattg ctcgagattg aatctgcact 240  
tcctgtcctt caacgagttg ttaaggagct cgaagattgt gcctttcctt tggtagattc 300

cattttttaca acttcagacg caaaggaagc tttccgttcc tgtaacattg ccgtgctatt 360  
atgtgcctttt ccaacgaaac aaggaatgga aagaaacgat ttgctagaaa agaattg 416

<210> 2326  
<211> 308  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-F11  
  
<400> 2326

agccccacgcg tccgcccacg cgtccgcgga cgcgtgggtt cagtcattca tgtctgcccc 60  
aaccaagcaa acaccttcaa agaaacttcg aggtgcggaa aaagccgat tggtatgggtt 120  
tttaatatagat gccgctaccc atctcttttg tgagctccct tttgtattcc attctttaac 180  
aaccacggtg aaccaagcaa ccattgggtc tgccatatta tggaaggaat atgctaaagc 240  
ggatccacgt tggggtagat ttcatgactg cacggtggcc ttggaagtgc ctacctctaa 300  
tttaagggtg 308

<210> 2327  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-F3  
  
<400> 2327

aagttatgag gagaaggaaa gttgcaagtc aaagcaactc atcctcgata tgctcttgga 60  
aaattcggca ggtctgtttc agaattgtttt tccgtgacat gtctatgtgg aaaagaagag 120  
agaggatatt atatctcaaa gatgatctac ccgtgatgga ttacaaattc atcttgggta 180  
atttctgaac attcatttgg tttccttata ttggaaaact ccgatgaaaa gttcgcagat 240  
aaattcagta aaaagtataa cagcagaata ctctaactgg aaacatatat cgaaatttgc 300  
gttatgtgaa aaaacgagtg gagttttcaa agaaccgttg cagtcttgat gtatcttaacg 360  
ttcattagaa tagagaaatg agtaacagaa agaaactttg cagaag 406

<210> 2328  
<211> 295  
<212> DNA



<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-F5  
 <400> 2328  
 acccacgagt caagtttcca atgctggact ccatatgttg accaaaatga tggctttgga 60  
 atggggctct tatgatatgc ataccaatgc catcgtagct atggtaattt ggacagaaat 120  
 gggacagcac gtgtggggtg ctctgagaa atactatcta tgttggcatg tattctaccc 180  
 catcgttttg tacatcctgt agatgttaca tacttgaacg tacttttggc tggacaagtc 240  
 tcggatatga tttgtggaca gagtattgct gtgaatggtg gattaattgt gcatt 295

<210> 2329  
 <211> 244  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-G1  
 <400> 2329  
 gacacagcct gactttcatg gaatagactt tgtaacgctt ttggtctatt tgagctatat 60  
 gtcgattatc tccctggcgt ttacttttct gactggttat atcggatttc ttgcatgttt 120  
 ctgggtttacg cgtaaaatat attctgctat tcgtgtggac tgagattgct ttttcgatgt 180  
 ttttttgaga gaaaagataa agttggcata ttgagagact tgtaaaaaaa aaaacaaacc 240  
 aaag 244

<210> 2330  
 <211> 291  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-G10  
 <400> 2330  
 ggctcgaccc acacgtcagc ggacgogtgg ggaaagtccg agttccaact catcgaaaca 60  
 gtcgcttcaa gatatagtag caaccagtct tcgagatcca cgagtgggtg attggtgcaa 120  
 aattatttta caaggagtta ctatcctagt ctttcctttg gtatctcatt taccatctgg 180  
 tgttgtgttc ttctggacgg tgaactcttt gttgaattca ttgcagcagt ttttgcta 240

aggtagagga agacgatata tcggacttca ggaaagaaca gaattgtttg c 291

<210> 2331

<211> 162

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-046-Q1-E1-G12

<400> 2331

gacccacacg taagcttggt gcagtcattg tggtagagta tataaaggca atggctcgta 60

ccaaataaat aaagaagtgt aaaaaaatag aaaaacataa aaaacaaaaa aaaaatgtaa 120

gaaatggata aaataaaaaa ccaataaggg aagtcgctcc ag 162

<210> 2332

<211> 386

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-046-Q1-E1-G3

<400> 2332

gtgtttctac cagatcaagg ctaacatttg gtgtaactgc ttcaattgca aaggcttggt 60

ctgacctgga tcatttacgt aatggcaagg ataaagcgct cttgaatttg cccaagttt 120

tcaaaagttc caaggacaan ggcaatcttc acgctcgta aggacaaagt tctattgaag 180

ccccaggtaa agctgagaga attgcaagac aaagagcaag atgtatccgt agtgtccaag 240

atgacgtcgt accagaggaa cccaactttc tagcaaaggt tcccaaacgg gagcgagatg 300

ggagagcagc ttttcgtcct tcaaagaagt caaaccggt ctccctcgga gccactttag 360

aagatgtcct tctcaaaatt ccgaac 386

<210> 2333

<211> 450

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-046-Q1-E1-G4

<400> 2333

cgggcggcc cagcggtcca cccaagcgtc cgaaggatta gaagatctgt tgagcttggc 60

agactatggt atcacaaatg cagaatttcc tttggagtat tttggtcagt tgaatacgtt 120  
 aaatggcttg gaaaagcttc tggattctta tcttgccaga tttgtcatat ctacgttagg 180  
 gaaggaagga tgcgttctaa tgagtcgtct ggatgattcg gaagcagaac aaacgcagaa 240  
 aacaaccaca aatttctcta cgtttcctat tatggcagta aagacaacat ttccgttgcc 300  
 gacgctttgc agaacagaat gtatcccaa gtatcgagt atagactgtc cttgctggcc 360  
 tgtcgaaagt gttgtcgata caactggagc tggagacgcc tttattggag gtattattta 420  
 tgccatactt caccatttta gtcaagaaca 450

<210> 2334  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-H1  
 <400> 2334

agtcaccaa ctcagcgaaa cagcaataac tgtgaaaatg cagtaaacta gcagtatgac 60  
 ggaaagaccc cacaattcct gactagatag gtttaaggag gagagagaat catgaagtat 120  
 aagaagtggg gtaagagatg aaagaccact gcatgaggat aaggaatcta actgagtaag 180  
 gaaaataagc ttaagctact ttggctgggg aagtaaagcc taagaaagag taaattatgc 240  
 aagcaaaggc atgagagaag tataatagca caagcatgct tgaagaaaaa gaaagagatt 300  
 tcagaaaggg aagaaaagtc agctatagag aacaagtga ggagaactca caaagaagag 360  
 agcaccgaac gatcgaagaa gaaactttgg gggtaacacg ttaatgtggt gttagagaac 420  
 gtatca 426

<210> 2335  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-H11  
 <400> 2335

aggttgctg acgccgtcgg ttggtctttg cgtgggatct tcatggctgt caagagcaaa 60  
 cgtgtacgca acgtaagtaa gggcaaaaag ccgactatca actacaccat cgactgtagt 120

aatccagtag aggacggtat attcgatggt gcttctttcg agaagttttt acaagatcgc 180  
 ataaagggtg atggtaaacc cggcaacttg ggaaacgtaa ttaaagttac tagaaaggat 240  
 gccaaagtgg aagtgtcatc agagattcga ctttcgaaac gctacttgaa atacttgaca 300  
 aagaaatata tgaagaaaca acagcttcct gaatggctcc acgtaattgc atcgagcaaa 360  
 aat 363

<210> 2336  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-046-Q1-E1-H12

<400> 2336  
 gacccacacg tccggttgta agagactagg tgcagctata tttgtcgatc agtcaccatt 60  
 gcaattgcag tcgagtgatg gctcgtggaa acttgggtcc aaaaccttgt ccgattatgc 120  
 ttctctgggt catttggaga ccttattaaa gatacaacca gaagctgtct atcaacaaaa 180  
 tgtgcacgat tgtctgttcc gtgagccaag taaganagaa atcgactatt tcgtctctct 240  
 ctccaaagaa gcagacgcag agtttttggc caagttgatc aacgaccacg caatggccga 300  
 ctggagaccg actttgccgc atttgcaatg tccttgtctc gttatctatg gagaacaaaag 360  
 taaaatattt cctgaagatg caactt 386

<210> 2337  
 <211> 447  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-046-Q1-E1-H2

<400> 2337  
 ggtataggtc acgcggggccg agccacgcgt caggatgaaa tgcagagatc tctagagaaa 60  
 ggcaagaaag aaaagaaagg aagacacagt aaatgaggcg agaaagcata ngaagtgaaa 120  
 cggattacga acccgtgtag tctaagcagt aaaagaaaga atgagtaaga aaaaaaggag 180  
 tcattccacc aggggagtaa aggcgcaaga aagaaacca aagcaattga cgggaatcgg 240

aaaaaggggt ggatcacgta aattaatccg atataaaccg agaaccttac ctctccaaga 300  
 aggtgttgca cggctgtcga aagaacgtgc tgtgaagtga gagaacgtac gagaaagcca 360  
 agtgaggaaa agaaggcaag tagagggcgg cccgagaaag gagaaggcgt aagacgtgat 420  
 acagagaaag aggaaaggat gaaatgc 447

<210> 2338  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-046-Q1-E1-H3  
 <400> 2338

cgggtcgacc cagcgtcgag ggaacggtaa cttgaacttt ggaaaccaa agggaatttc 60  
 ggaaccaat gggaggaaaa attataaaat tgggtgcaaa aattcaacat aatcccaatg 120  
 gcgttcctt caagttaaat aattaaaaat gctgccaatg tattccaagc attgggcgat 180  
 attcttggga gttgtttcaa ggaaaatctc gctcagtcac canctgaaca ttcgtcatcc 240  
 gaaaactagt tgcaataact gaacaatatt ttgcaaaaga gttttgaaca tcaacatgaa 300  
 gacaatgtgc agatttttag aaagaccttg ttcaagaaac atggcagcgg atcattattg 360  
 aagcaacgga ctttacagca ttctgacagc gctgtgaatt gttggcaa at tctcgtcta 420  
 ctttgccaca agattttcga cagtct 446

<210> 2339  
 <211> 331  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-046-Q1-E1-H4  
 <400> 2339

aattcacgag gaacgagcgt gaacgaagga ggaatctcaa gtaatcgagg aagaaaaagc 60  
 ttcggtgaaa gcgtgaacggt attttgtaca cactgcccgt caagttctgg aagtgtgcta 120  
 agaataagca ggaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
 aaaaaaaaaat aaaaaaaaaa aaaaaaaaaa aaaaaaaaca aaaaaaacaa aaaaaataaa 240

aaaaaaaaat aaaaaacaata aaaaaataaca taaaaaaaaca ataaaaaaaa aaatcacaaat 300  
actaaacaca aaacaagtaa aagggcagca a 331

<210> 2340  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-046-Q1-E1-H5  
  
<400> 2340

acccacgcgt ccgatttttt gttgtggagt cgggttggtt ggtagtacag ccttaatttt 60  
gtgggtgtta taaatcatcc aaggctaaat acgtaaagag gaccgaatca gggtaagagg 120  
tagaggagca agaagagaag agagaatgct ggggtggagta gcgaaacaag agaagggaag 180  
taaaaggtaa gaaagaggaa aggtttacga gagaaggaag tagaaagaag agagtgttaag 240  
gcggcgctcat aatagaaatc cgaaaggagt agaagaaaag agagagaaga aagaaaagaa 300  
gagaaaaagc ccagaagcca agataaggta tcaaagtaaa gaaagaacga aaacgagaag 360  
aagagacggt acgcttagaa gcagcaaacc agagaggaaa gcgttaaagc atgaaagaaa 420  
agaa 424

<210> 2341  
<211> 261  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-A1  
  
<400> 2341

agactgcacg tggacacggc atctaactga gtaagtgaag tagactatga cgaacttggc 60  
tggggaagta gagcctaaca gtgagtaaata tacgcatgca aaggctatta cgagaagtag 120  
taatagcagt tagcatgact tgtaacgaaa gaagactcga gatttcaaata gcgcgaatga 180  
atactcagcg ttatcaaaca agtgtacgtg aactcatgga gcagttatca ccgtacgac 240  
gaataatcaa ccttgggggt a 261

<210> 2342  
<211> 387  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-A10

<400> 2342

cttcggccaa ggcgtcggcc cacgcttccg aaaacttcaa gtgattgaaa ccttctcgtc 60  
tcaagatatt atagctgatg cgtttgctgg agtcggacct tttgtgattc cagctgcaaa 120  
acttaaacgc tgtgttgctt ttggaaatga cctgaatccc gtatcagttg aatttatgtc 180  
gaggaatatt ctaagaaatg gtgtatctga attgggtaca acatattgtt tagatgcctg 240  
gtcctttata gaacagccta tacgaaaaga aatatatttt acgaaactta ttatgaacta 300  
tccttcgagt agcagtgatt tcctacgtgt cctcaaaggt ctgtacacag gtcgagaaaa 360  
tgcgccgcta cctactagat attgtta 387

<210> 2343

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-A11

<400> 2343

gaccacgcg tcagcggacg cttgggcgga cgcttggggg aaaaatgacc accacaacga 60  
caggaaaaag aattgcgtat tatgtgcacc gttggacagc aaccttgtag aagtttcttc 120  
aaaagattac caacctagta ttctcttctt tattccggag caacaaaaca tattccatac 180  
cttgtaaaga cttggaacag tttttccata cgtcgttgca tcaagggtcca caaacgtac 240  
agcaactcaa gtcaagcctg caacacacac ccaactgttc tgtcatctat catatgatac 300  
aaaataaccc gggatttgat gaagaatggg tgagcaattg tatcttgga aagacagtga 360  
agttgcgtca aagtccgga aaggtcaaag agtaagcact gtttt 405

<210> 2344

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-A12

<400> 2344

gaacgtcaaa aaaaattgaa ggaagaaaag gagttggaaa aaacccgggt aaaaaaagat 60  
gaggaggatg acaatattct ttgaaaataa ttttggttga taataaaaga taaagaatgt 120  
ttggttgatt gtatggaagt tttgcaatga gtagaacgcc aacaaggaat atcgttatgc 180  
gtatgtgtat acggaacggc aatggattgt aactgatagc aaagctaagc cttgcggaac 240  
ttttcaaaag ccatgttcct tttttttcga tacgaatttt aatttggaca acctcaagag 300  
gtttccaaaa aagtagggaa aagtcaggac agacacttgg aagtgtcgca ctcttggca 360  
gatgtgtggt tggtttcccg ccttgtatgg aaagttgtgc tg 402

<210> 2345  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-A2  
<400> 2345

agcaaacatt tagaacaagg tatgaaggaa gcggaagaa cgcgaaacgga aggacaagaa 60  
ttgcacaatg ctttcttcca agattctcaa accttaagcc gagactatgt gaaacgaaga 120  
gatttatctt gtgagaaagc aactcaagaa ttgacgagtt gtaagaactt gactcaagaa 180  
tgtatcgaaa aaggcataga aaaggacaca agcacagcag caaagggtgaa agatggatta 240  
tctgaagaaa agtcagcttt gcaagatttc cataagaagc aagtagagtt tgtcgataat 300  
atagcggggt ccgtagatga attgatgact tctggattgc gagtagatga accgactagt 360  
actactctc gtaagagaca gtggaattat cctcaagaat tgggacgaac 410

<210> 2346  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-A3  
<400> 2346

ccggcccaag cgtcaggaaa aagttagctc agagactaaa acccaatgga attcttcatt 60  
tgtttgtcta tggaaaatat ggaagatggg aaatccgttt gatgcaacga gctattcgat 120  
tgctattagg aaaggaaaag gaaaactgga aacaaggagt ggacattgga cgcaaattat 180



tttctcgtct tccaccagat aaccgaatac gcaagagaga agaggaaaga tggtaagag 240  
acaataagca agatgcgaca tttgccgata tgtatgttca cccgcaagaa gtggatttta 300  
ctattgattc cttatttcat atgatcgaca gtagcaactt gcagttttta ggattctcaa 360  
atcctcaagt atttgatatt tggagactga 390

<210> 2347  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-A5  
  
<400> 2347

cccacacgtc cgatcaagtg gtagcgtaca agcgttcaga agaagaaaaa tggagccaag 60  
caggtgaaaa aagatggcag ttattcaaaa gactggaaaa agagaatgct actgcccgct 120  
ttttcttaca aaacaaagct atttttccag gtgctagagt tttggaactg gcttgtgggt 180  
ccggagaaac cactttgcaa gtagctgcga aagtaagagg ttattctgta ccttcaggag 240  
agaccacggg ggaagtgggtg gataaattgt tggatatatt acgtccatct agtcaccagg 300  
aagggaaaact ggatggtacc agcaatagtg gttcggtagt aggtgtagat atcgccaaag 360  
gaatgctgaa tgtgttcaaa ag 382

<210> 2348  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-A6  
  
<400> 2348

gaccacacg taagatcaga tgatagagaa cggacgttca tgagtaacag gatgaagcca 60  
gggaggtgat gaagaatggc agatattcga aatactggta agagagagtg ctactgcccg 120  
ctttttctta cagtacatgg ctatttttcc aggtgctaga gttttggaac tggcttgtgg 180  
ttccggagaa accactttgc aagtagctgc gaaagtaaga gggtattctg taccttcagg 240  
agagaccacg ggggaagtgg tggataaatt gttggatata ttacgtccat ctagtcacca 300  
cgaagggaaa ctggatggta ccagcaatag tggttcggta gtacgtgtag atatcgccaa 360

aggaatgctg aatgtgttca aaagcacgtt ggaaaat

397

<210> 2349

<211> 370

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-A7

<400> 2349

eggacgcgtg ggaacaacat gccacagcat tcatctttgt ccatggttgc ctctttgcgt 60  
tccaagctcc tttcaactag actcgagctg tcgcaattgc aacaacaaag aaaagagttg 120  
gaagaacaag tgcaagtatt gaaccaaacc aatcaacagt tggcatccac cgtcaaagaa 180  
tataaaacga gaatatacga gttggagcaa acagcagatg ctcaaaaaca acaaatagag 240  
tcgctcgaag cctgtaaaat acaaatgcaa gaagaaatag agtcattgga gaaacatata 300  
ggaagtggat actttaatcc gagatataca aaagtgttgc atctcaaagg aggacctcct 360  
ctttccaaaa 370

<210> 2350

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-A8

<400> 2350

agcccacgcg tccgcccacg cgtccgaacc aatgtcgcgc aaagggttgcg gagtttgctg 60  
ctcttgctgg agatttcaat cgtgctattg acttgtttga aaaggttgcc tccgtatccc 120  
ttgaaaataa gctactccgc tatggtgcc aagagtttct tctccgagct ggactttgca 180  
gagtctgtct cggagacgaa gtgggtgctt ctctgtcttt ggaaaagtac aaatccttag 240  
attccagttt taatgacagt cgtgaagcca agcttcttga gaaagtaatt ttggcagttc 300  
aagaaaatga tgaagaagcg ttactgatg cagttgcgga gtacgattct ttgtccaagc 360  
ttgatccgtg gaagacgtct atcttggtga aaattaagaa aaatctc 407

<210> 2351

<211> 346

<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-A9  
 <400> 2351  
 attccgggct gaccacgccg tcagcacaat atttgtcttc tttaacaagt attattcgtg 60  
 accaactaag aagactgtct ttgtccactt ttattgtggc ctatcctaatt tctggacaag 120  
 tctatgatac tgtgagaaaa gaggaggagtc gagaaaaataa tatttctata gaacactggg 180  
 ttgattatgt agttggatgt ggtgcagata tcaatgggtg ttgttgtcgt acaactcctt 240  
 agcatattca gtgtctgaga aatcgagtga gttgttctcc aaaagacgaa cggaacacaa 300  
 gtctactata tgcttgaatc tcatacgatg aaaacacctg cggcta 346

<210> 2352  
 <211> 325  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-B1  
 <400> 2352  
 agagcaagcg tgaaccgtga gggtagttca tcatggatga gacaacacgt caagatgggtg 60  
 ttagtgcttc tctttggact gtctgtcgtc tctctacac agttatttta gcattctctg 120  
 gcatcagcat tggtttggat tgacgtaaag cagacaagat atggaacgac agcttattct 180  
 atgatgggaa gtacattacc ttttgtgctg attctgccgc ttctgttgta taaggagggg 240  
 accatggagc gtgtagatat gtcatggcgt tggcgtctat aagtttgatt ctagtccttt 300  
 tcttgtggct ttttacattt gtaga 325

<210> 2353  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-B10  
 <400> 2353  
 gacccacgcy ttcaggaaac agacagatgg ccaacgctgg tcaaaatggc cttgtgcaat 60  
 tcaacaaaca tagaaaagta aagagattgc aagaagataa tattttgaat agagcactat 120

cacaaccagg agatgtatatt ctgtgctttt gcaacatcca gttgttggtg aatgcagaaa 180  
gagctattat aggaaatatt acttgtccag aaagtatcga attgtgtcgt ctattagctg 240  
gacatatagc agtttggttc gatgaacatt tggatgactt tcgtttggaa gctatcttgg 300  
gagcactatt gtgtacttgt tattgtgagt ggaagcgttt tgaaggagaa ttgggggtac 360  
aagaatggaa tgaattggag aagatatctt ccttagatac ttggaagctt gtgcttggtg 420  
caag 424

<210> 2354  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-B12  
<400> 2354

cccacgcttc agattagcta aaggaaatgg tcttccaagg tcggaaggaa ttacttcaaa 60  
aagggtgcag gataataaag gtcgtcaa at gactgcgcct gatcagaatc gacaaggcct 120  
tggaggtgct ccttcttcac aaggacggaa tcgccaaggt gaggaaccag caggaggcag 180  
aggaccctcc aagtggagag gaggttcttc tgatagagga ggaggaggag gtagaggagg 240  
aggcagagga aatagtcgag gaagcagtcg cggtggtagt tttcgaggtc caatgaataa 300  
taatagacag gaaagagatg cttcacaagg tttcgccaac tctgcaaagc gtggtgggag 360  
agaccgaaca aatgataaaa gtgcgacta 389

<210> 2355  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-B2  
<400> 2355

gacccacgcg tcaggatatt tctcgtcttc tttccctct tctacaaaat gtggaacagc 60  
caaatgactc gtttatagca cggattatg cgcaggaagg aagtcgcctt ggaacaaagc 120  
atcaggagac ttttcgcaag ttaggaactg agagcttgga ggatacagtt gcggaagccc 180  
tttatgaact ttataagatg atgactgtgt ggaatcagga ccttgaagca cgtgagcacc 240

agtcgaatac gaaggaagag ctcgaaaaca cagcaaagtc tcacgccctt ttctgctata 300  
 ttctaaaaat attgaagaaa tttttgcaac tgtggggtgt cgaatctttt tcggacagtg 360  
 gaaagagagt tttggcaata tacgactcgt tacagagctt 400

<210> 2356  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-B3  
 <400> 2356

agccaacgcg tccgcaatta tgagaatacg tcgtttgaac gaacaaggag aagaagaaga 60  
 caaagaagac gaacaagaag aaatgcaaag tgaagagttg acaaggagtt gttcgggaatt 120  
 tcttctttcg tattcttccg aaatggtaga ctgtataacc tcattgagcg atgacgacga 180  
 agagaaaagag tcgttcgtgg cttctcgact tggacaaaaa ctgggaaaga tgctggaaaag 240  
 ttatgcctcg cattgtagtg gaaaaataa gactttgttg tttcgtcatg ttccggacga 300  
 cacaccaacg aagcattggc ttatcgacaa gttcaagtta ccaacgagaa ccttacgggt 360  
 taccttgtca cctggagttc gtcgaagaag gaagaataag agttttgc 408

<210> 2357  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-B5  
 <400> 2357

cccggctcga cccacacgtc agcccacgcg tccgaagggtg atacaaggga tactgtctta 60  
 gttccagtag atcatatatg caaggaaaat agatatgttc ggctaccaga gttgttcggt 120  
 attccgtttg tcatgagagt tgccctcttg ggagagccgg tgggtcaatt attgcatcga 180  
 gttggagaat atttgaaagc caaagaggag gagataaagt cgtggaagtt gtatgaaatc 240  
 agggatgggt tattttcttc attagatgac atggaaaaag tatgggttcc agaacctctg 300  
 tcggatgacc gaggagagtt ttcggtttcc ttaggtttgg aacataaaga tgagaatgca 360  
 aaacgttggc agtcaccttt ccccaaactt tttatggaca aaccttaaa gattcgggggt 420

<210> 2358  
<211> 399  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-B6  
  
<400> 2358

aggtttgttg ttggtctggt tgtgtttgtt cccactatcc aactccgttc aacaagatga 60  
agcgtttgtt cctattgggt ctcttcgtga aaaggatgag cacgcaacac agccttcaca 120  
acctgttgta aagccacatg gtagcaaaca ctggaagccg ctccagtgtg ctcccaacaa 180  
ggaaaaagca gaggcattga tacaaaaggc acaaaatagt ttgagtgcgc ttttctcaaa 240  
ccggttgttc aagcatatag acgtcgaaag ttgtcaagag tttagagtgg tcgaaataaa 300  
gcttgacgaa aaaggtttga atttgataa tggacaagag catatcaagg aaagcttttag 360  
aatattggca gagtttctcg accaatgtgg agcgaagaa 399

<210> 2359  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-B8  
  
<400> 2359

agccccacgcg tccgtggatc gattcctcgt gacggagatg aagtcttata tctcgtcttc 60  
ttctgtttgt tgttgggtgc cttgtcatca cttgcctcgt tctagtggat ttcacacctc 120  
tcttttttgg agagcgaatt atatgtatga acaacgaata ttgaaagaaa gttttatttc 180  
acgaaataat tgactagggt gagagcgaat atgaatgtac gcaagcctca tcgttttgta 240  
ataagagtcg aatgcatagc cagcaacttg cacagtaaaa tgcggcgtct tctaacagta 300  
atggatcgta gcttagacag aggatggaat aggcaccaga aagcagctgt tatttgata 360  
actatttctt gtttgatact ttctccgggt act 393

<210> 2360  
<211> 342  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-B9  
 <400> 2360  
 attttttaacc aaccttaata cgcaaattta acccctagta gaaaaacctc aaccggaact 60  
 tccgaaggag ctaccaaagg actttctgaa aggtaagtac catatagctt gttgttagtg 120  
 aaaaccaatt ttgcagattt aaacctctgt caaaaacatc ttgccaacat gtttcgttgg 180  
 ttcatgttat tctcagaata caataagtgc cgaattcaaa tgactatata tagaaagtgt 240  
 aaagaaagac gatacaagga aataagagaa cgcctgtggg agtgggatga aggaatattc 300  
 cgctcggttaa actctaagtc tcgacagctt ctagttgaag aa 342

<210> 2361  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-C1  
 <400> 2361  
 agaacaccga gtccatcggc atctgcctat tctcgtgaac aagtacagcg tgggtggttat 60  
 ggagaatatc aatctcaaca atctgctagt tactatgtaa ccaagtattg caagaaagca 120  
 gtacaacaag taacttatac ctcatgttct acttattacc catcgcaaac tgtagaacag 180  
 aagacttgct acaagacagt agcagttcct acagagtatc agaaatattg ttacaagcaa 240  
 gtggaacagg agcaagttgt tcaaaagagc tgtcccactt attattcagt acaaaaagggtg 300  
 aaatatcaga gctgccttac ttatatcagc cagccaacta tcatacccaa gtactgcagt 360  
 atgtcgggtct ctgaagagta tgtacagcaa cagcaatg 398

<210> 2362  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-C11  
 <400> 2362  
 cgcgtcagcc cacgcgtccg agaatatggt cagtctttga gtgccaatgt gtacctttgt 60

cgtccagaaa ccaaaaaatat gctatttggc ccacgtgagc agaaacagcg cattcaacaa 120  
 acgcattggt tttgttgtgt acctttccac agtcatcact ggaacttttg ggaagactgt 180  
 ggactgaaaa atttatcttc tcatctcgtg ggacaaagaa acaacgacaa cgacgacact 240  
 tttcttattt ctgtgaatat acaagataat actcgatctc catagtgaac agtagactag 300  
 tatttttttg aataacaact acgccttgta aaaatatggt ttctctagtc aaaatgaggt 360  
 ggcttcgctg gtcttatgaa ggggtacagt tgctga 396

<210> 2363  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-C12  
 <400> 2363

acccagcgtc agaattattt tcaattgaga aatttttggg ttgtggggaa gaattttcag 60  
 atagaaaccc ctcaagttgg agtccctatt cacttgaagc aaacgtgtgt gacataaaac 120  
 aacgcaatca acagccacaa ctattggaat aggttgaatg atatacaatg ctctcaagc 180  
 aaaaaatata gaagaataaa gcgagtaaaa cgtttatctc tagcacaact ttttatacca 240  
 gcaacgttgt tggaacgctt caggggatca tcgatacttg attaattcag aatggactac 300  
 gtttatctca ccctccgaga atccttccaa aacatacaaa cattcgagtg ctttggtttc 360  
 gggttaaacga aaaattccct ccagccaaat ccgttttggt ccgagccaac tgaagaacct 420

<210> 2364  
 <211> 272  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-C3  
 <400> 2364

tgcattgatga taaggaatct aactgagtaa ggaaaataag ctttaagctag tttggctggg 60  
 gaactaaagc ctaagaaaga gtatattagg caagcaaagg catgagagaa gtataatagc 120  
 agaagcatgc ttgaataaaa agaatcatat ttcataaagg gaataaatat cagctataga 180  
 taacaggtga aggagaactc aaccagatga tagcacccaa cgatctaata agaaactttg 240



gtggtaacat gttaatcttg tgtagagaa cg

272

<210> 2365

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-C4

<400> 2365

aggcatgttg gaattgaaag gagggtcgac gagctcagct tgaagaacaa agaacttgcg 60  
tggggttgga cgttatttat gaacttggac tctattgaca caggaattaa tgctcctttt 120  
gacccgtttg cagacgcctc acgtggagag gacgcagcag taaccaaaaa tatagtgcac 180  
attcgcttgc aacaaagaaa cggccgcaag tgcttgacga cgattcaagg gcttgacaca 240  
aaattggatt tgaataaaat tacaaaggcc ttcaaaaagg agttttgttg caacggttgt 300  
gtcgtagacg acgcagaact gggaagagtc atccaactgc aaggagacca agaggataaa 360  
gtcaaaaagt ttctagttca aggagaaatt agctgaaaaa gacctgataa ag 412

<210> 2366

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-C5

<400> 2366

cggacgcgtg ggacagagta ggaagaaaag agaagccatg gatgtggaga acccaccgat 60  
agttttatgt tcgggtcttt gtaagagtaa catttaccgc agttggatga acaatagtga 120  
gagtgagcat tggagaaata cgaatatttg ttgtcctcgt cgaggtcggc tttttcatgg 180  
gagttcaatg acggaagagt ctctgattc cgtaccttat ctattatctg agcttcgttc 240  
tttgatttct tatgtttcag gcaagcctgt gctttgtaaa gggctctgcta gcttcattcg 300  
tgatcgttta cggacgttga tagctttttc ttcattcttt gtggaaaggg acaacagttt 360  
tatggatttc accggtttat ccaactacac gcacg 395

<210> 2367

<211> 380

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-C6

<400> 2367

agcggacgcg tggggaaaag attgcctact gaaatgattc aaataaggac tgtattaaaa 60  
gtactagaca actcaggacc aaaaacagca agatgtatag gaattcttgg accacctaaa 120  
aagtttgcta ctgtcgggtga caagattgta gttactgcag agggaaaagt ttaccacgga 180  
atcgctgcct gttgtaagggt ggaaaagaag agaccggacg gttcctttgt aagaatcgac 240  
cagaacggag tcattctagt agattcaagt ggaaagccag tgggaaacag agtatttggt 300  
gttttgagca gtagagtga gcaaccggaa attctctcct tgggacgcgt caaaaccatg 360  
taagctttaa tagttaggtg 380

<210> 2368

<211> 380

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-C8

<400> 2368

gacccacacg tcagcccacg cgtccgcca cgcgctcgcc cacgcgtccg aaccagcgtg 60  
tgacatgggt acttcggaaa taaacaacca ccatcaggaa gaacaaccat tcaaggagtc 120  
cgcgctgaaa gaagtcaacg acaagttcga ccaaacctat gccgaaagcg ttgccaagga 180  
aatcatagaa agcaccgtgg gagaagagaa atacgaacac acaaagacag tggaatggac 240  
caatcaaagtg tgtgaaaaaa tactgaacaa gttgttggaa ctgcaaaagg ctttcaaata 300  
taaacgtggg tgggtctatc ctacagtaac gtttttacat ttagcgatag ccactagtct 360  
cttgttcctt attgcaaaag 380

<210> 2369

<211> 368

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-C9

<400> 2369

cacgcgtcag agcagtactg aagaccgaca caggtactcg aggagaaagg agacccaaat 60  
 taaggtgaga gaatggacga taaggaacta ggcaaaagga tatggtatct gcggtagaac 120  
 atatgaaaga agcagcaccg actgttttagc aaaaacacag cactctgcag aaaagagaaa 180  
 atgtaaagta tagagtgtgc ggcttgccaa atagtagaga agaaatcgat gaaagtgaaa 240  
 gcgagtaaaa gatgaggtat agagaatggc ggtcctaact gtaaggatcc aaaggtagcg 300  
 aagtacatag acgtttgaaa ggctgccagt atgaaaggag aaatcagtgt agcactgtct 360  
 agtcgtcc 368

<210> 2370  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-D1  
 <400> 2370

agcccacgcg tccgcccacg cgtccgcatt gctcgaagct ttggccttgg agaagcttgg 60  
 caaagcctaa gtagaaggaa gaagaagaga gaacaggccc aaagaagaag aaagaatagt 120  
 ggatgtcata gtatggcaga agaagaaagc tctcaagttt ttcacgcca actattgcta 180  
 aatcaaggct ccaaagattg gcttcgttcg ttgggaaact tgctggaaac ttttacaacg 240  
 gaagaggtaa aggtagcaat tcggtagtgt ttcacgtagt tcatgtgtag gatgaagaaa 300  
 agttgagtac tatactctcg cacttggaaac gcgatgctac agaaatatcg agggtaggag 360  
 tcttgacacg gattttattg aacaactaaa ctattaaagt cactgcaaa 409

<210> 2371  
 <211> 227  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-D10  
 <400> 2371

acctacgcgt caggaactag gcagaaggat atggtatctg cggtagaaca tatgaaagaa 60  
 gcagcaccga ctgttttagca taaacacagc actctgcaga aaagagaaaa tgtaaagtac 120  
 agagtgtgcg gcctgccaaa tagtagagaa gaaatcgatt aaagtgaaag cgagtaaaag 180

atgatgtata cagaatggcg gtcctaagcg taaggatcca aaggtag

227

<210> 2372

<211> 150

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-D2

<400> 2372

gaccacgcgt caggaataga tgaggaaaga aagatcaagg aagtaagagt aagagaagga 60

gtaatgtgaa tgaaagcagg aaagtatttg aagaagagag tgtaaagcgc gtaccttttg 120

cataatgtcc cagcgagtga aagaggaagc 150

<210> 2373

<211> 251

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-D3

<400> 2373

gaccacgcg tcaggtgact ttctttcaga agatattttc agttgctcct ctcaatttcg 60

aagaatggat ggcagtagtg tggttatcgt ttcctgtgat tcttttggat gaaatgctca 120

agtttgtttc aagaaagttg attcaaggca atataaagaa accaagaatt tgacaagatt 180

gttggtggtg ctcaactttt ggactggaac aattccctgg tcgcctaaaa taaaaaattt 240

cctcaagtct c 251

<210> 2374

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-D4

<400> 2374

aggtgaggaa gcaatgacga caactgccag tgctgcagca agggctatcg aaagaagaaa 60

acggatactg agtgatagtt cacagcgtct tactatagct agtggttctt ccctagaagg 120

caacacaaaa aatattgaga aactgaattc ggattcttcg aaacaacaag cgaaggaaga 180

ctccccgtta caaggaatg agacgagaga aaccagcaa gacgcaagtg atgtgattgg 240  
aaccagcgc ttggttccac agtcggaaca aaataagctt acaaacacaa aatttacagt 300  
tggaggagca tttgatggtt tttgatggtt taagcgtctc tctcaaattt cgggacact 360  
tggttcctcg agagtggaca acttattccg ttccgtgtg 399

<210> 2375  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-D6  
<400> 2375

agcccacgcg tccgctggaa tttctctgac tggtcttttt caagtttttc gtcgtattct 60  
ggaaaggaca gtaatcgagg ttggttgata atgatatgtc cttctgccgt tgacgtggaa 120  
gccatggaga aaatagtcga caaagagtcg ccattcttaa ataaagatgc tcgtccagtt 180  
atactggtga atcccaatct agttgatatg ggagcaacag gtttaggctt caacgcaaga 240  
cagctaagac aacgcttatt gagcacgttt gaatccatct acttccttcg agtgtattct 300  
gccggagttg tggttcgtca gtatcccttt gagtggagta tttggttga aataaccaac 360  
gaagacgaaa atacttcttc cgactct 387

<210> 2376  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-D9  
<400> 2376

acgcgtcagc ggacgcgtgg gccggacgcg tgggttttac aagcaatggc accataagaa 60  
cgtagcaaac catagagtcg ttcgtctaaa gcaggcctgc agtttcctgt tggaagagtg 120  
agtcgttttc tcaaaaacgg taactatgcc gaacgagtat gagctggagc ccgattttat 180  
ttggcagcag ttttgaata tctaaccggt gacaatcttt gaattggctg gaaatgcagc 240  
acgtgctaata cagacgactc gacttggtcc tcgccacagt gaacatgcag tgcgcaccga 300  
ctaagacgtt gaataacgct gctctgtgga gtgactattg ccacgggagg tgttttacca 360

tacgttc

367

<210> 2377  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-E1  
  
<400> 2377

aggagaaaag gctttgagaa atcggacttg tctttgctgc cttcgtccag ttacaatatc 60  
agtgtttcct gtcattgttt ggacttttcg agaaatgtca tgctttggaa gagaccaaga 120  
caagcttggtt tataagcctc gtgtaatctt aataactgga ggtgcagggt ttatcggttc 180  
acacgtcgtc tcttatttgc tccgggaata tccggaatat ttaattataa actatgacaa 240  
gttagattat tgtgcttcgt tgaaaaactt gagtgacgtt gccactatc caaactatcg 300  
ttttgtcaag ggagacattt tatccgaaga tctcgtcagt tacgtgctcg aaagtcatag 360  
cgtagatact gtcattcata tggctgctca aactcatgta gatgc 405

<210> 2378  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-E10  
  
<400> 2378

ggttacaagt aggagacgaa gcacctgact ttgagttgaa agaccacgac ggtaatatag 60  
ttaaattgag cgagttcaaa ggaaaatatc ctgtagtcct attcttttat cgcaaggaca 120  
agacgtatgg ctgcacacgt gaagcttgca gtttccgaga taagatgtcg gaatttaacg 180  
aacttaatgc gaaagttttc ggtgtgagtt cggacagtgt agagtctcac aagtcgtttg 240  
ccgatgaaca gaagttgacg tttcccttat tatctgatga atgcggtaaa gtactcaagc 300  
tatacgcggtg tatcaaagag catgtttact atgcctggtc gctgcactta tgtcattgggt 360  
ccggatggta ttgtaccaca ca 382

<210> 2379  
<211> 414  
<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-047-Q1-E1-E12

<400> 2379

cacgcgtcag gaaagaggca aatacgggaa agcagtaaaa gaagaaagag aaaggaaaaa 60  
actgagtatc aggaagaaaa gagggagtag atgaggaaag aaagatcaag gaagtaaaag 120  
gtaagaaaga ggaaagggttt acgagagaag gaagtagaaa gaagagagtg taaggcggcg 180  
tcataataga aatccgaaag gagtagaaga aaagagagag aagaaagaaa agaagagaaa 240  
agccgtactg aagaccgaca cagggtactcg aggagaaagg agaccctaat taaggtgaga 300  
gaatggacga taaggaacta ggcaaaagga tatggatatct gcggtagaac atatgaaaga 360  
agcagcaccg actgttttagc anaaacacag cactctgcag aaaagagaaa atgt 414

<210> 2380

<211> 249

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-E2

<400> 2380

accacgcgt aagctagttc tttggtttcc aaaattggcc atttattatt gtctcaacat 60  
gttttgtagt acaaagccaa ctggatatca atcacggtca ccgtgaaaga atccataaga 120  
cactgtatac ttgtcgcccg ttattaacta cgagggtgaat cagtcttcat caagttgttc 180  
ttccaatcgt tgaatcttct ccctaagcgg actacatacg taataataac tagaagagtc 240  
aaataaata 249

<210> 2381

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-047-Q1-E1-E5

<400> 2381

agcggacgcg tggggtgatt tccaccaagt cacaaagaat cgtaaaagag aaaatgacga 60

taggttttgt acatccactt ggaactagtg ttcaatgtaa caaacactac aaaactgcta 120  
 cttgttcttc ccagttttat tccaagtctt catcgtttct anggagaaac catggggggtt 180  
 gcaagtcgtg gtctcttgcc tatggaagca aggtggatcg gaacaagtac acttacagtc 240  
 atcctagttc cgtaaaacaa ggaagaggac caactatggt tgcttcgaaa acagagttgg 300  
 aacaacaagt aagatccaga ctagtcaagt tgtttgagca gacaccttgc atgcccatca 360  
 tggtgagact tgcttggcac gacgctggaa catatgatgc acagacg 407

<210> 2382  
 <211> 165  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-047-Q1-E1-E8

<400> 2382  
 gaccacagc gtacggacag tgcacccggc aacgccgtcc gcgtgacgca tctagatcac 60  
 gacatcanca catgcaaata cggtaacagc gaacgggtgtg cctaataagag gtgtcaaagg 120  
 agtgagaaca gcatcaacag cacagcatca atgtaacgaa atggt 165

<210> 2383  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-F2

<400> 2383  
 ccacgcgtaa ggaaagcttg ggtccagatt cgattgagtt tatagtgaac cattccgaca 60  
 tgcgctcttct ttgcatcagt tcagaaaacc tggataaagt tcttggaat aaagacaagt 120  
 ttcccaaact tgaaaagata gttttgatgg accgagaaaa cctgaatagt gatactctcc 180  
 cagactatgt tttggatata cagaaactta tatctgatgg aaacgaatct gggcaagttc 240  
 agccaggatc attggacgat attttcgtga tcatgtatac cagtggcact acgggggaaac 300  
 cgaaaagagt tatgttacca aacaaagcat ttctttgtga agttgccggt atattaaagg 360  
 ttactgatca ttatcacatt tctttagaca atactgatgt aacaatgagc 410



<210> 2384  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-047-Q1-E1-F3

<400> 2384  
  
 gacccacgcg tcagcaaaag gagtctactc cttcacttgg tccttacgtc tgaggggtgg 60  
 aatgcagata ttcgtaaaga ctcttactgg gaagaccatt actcttgaag tggagccctc 120  
 agatactatt gagaatgtca agtccaagat acaagacaag gaaggtattc ccccagacca 180  
 gcaacgtttg atttttgcag gtaaacagtt ggaagatggt cgtactctct cagactacaa 240  
 cattcaaaag gagtctactc ttcacttggg cttacgtctg angggtggaa tgcagatatt 300  
 cgtaaagact cttactggga agaccatcac tcttgaagtg gagccctcag atactattga 360  
 aaatgtcaag tcgaagatac aagacaagga aggtatntcc ccagacagc aacgtttgat 420  
 ttttgca 427

<210> 2385  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-047-Q1-E1-F4

<400> 2385  
  
 acgcgtcagc ggacgcgtgg gcggacgcgt ggggtcggat ttgggaagag tatggtgcag 60  
 ttacaactat cttctcgtca tcagactcaa gtacgatatg tgggtgaaag ttatctgaga 120  
 gagaatccaa aacagaaaca ttactcgat agtcttaaag aagatacaat atcccaccaa 180  
 aatttgtagc agataactcg tttggcgccc aaagatgctc ttccaccgtt ttggtcnctt 240  
 gtggcaagta gcacgtggaa actgccacct cccaagtgtc catatgacaa ttatcaacgt 300  
 cctgcaatac tagacaaaag actagaagct cttcgtgagc gtcatgaaag aaagcagtat 360  
 aggggaactaa tacaggactt acctagtctt gcgccaagcg aaacatc 407

<210> 2386  
 <211> 416

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-F5  
 <400> 2386  
 gacccacgac gtcaggttgt ggagtaagtg cgcttggcag caaactaaaa gatggcaaga 60  
 agaatcatcg gagcttatat gtctgacgct actgtagcgt ctctatttag cgtgaaaatg 120  
 ttgttctacc ttacaatact tgcgttctct atcactattg tgggtcttat gggtaagagt 180  
 tccgacggta tttgggttca cagtgttcca gcgaaagacg aatattgtgc atacaagtct 240  
 tcccttcaag taaaccacca cggcatagct tcctattgca agtatatcat ggctgtagca 300  
 gctattgggtt tgggtatcag cttcttcgag ttttggtatg cattcctcgg aattttcttc 360  
 aagtggcaac aaaagttgtg gtatattgaa tctgctatca acgtgttttt ctgggc 416

<210> 2387  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-G1  
 <400> 2387  
 agcgatgatt cgatgcggca caagacagtt gtggtggcaa ctgcgcgctc gttatcatatc 60  
 aactactact gtccatagag tagcagcaga cgaagaaaag gaatctgtcg gtataaagcc 120  
 taaacgtttg catcagcctc ttggagttta tccacaagga accaatctgg aagaagtgg 180  
 agaaaagtgg caaagtgcg ctatggaact tatctcgaaa gtacctccga tagtagtoga 240  
 tggctatgtc atagcgtgta atggaggccg cgggtccatta ggacatccaa tagaatatat 300  
 tcgtttggaa gcaccttatt cttcaacttg caaatattgt ggtttgcgat atatcaacaa 360  
 agacactttt gaaaagtggg aaaaagaaaa taacgaataa taaaatggaa aga 413

<210> 2388  
 <211> 228  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-G10  
 <400> 2388

aggcccattt tacatccgac aatttcagag aaccctgcta tgaaaacaca actggcatac 60  
agagacgccca tgttcaacag cttacggatg gcgaccacaa tgcaggatgt tcacgggacc 120  
agaataacaa ggacgccact agcagtttct tggccattca cggtgggcca cccgttttga 180  
ccagacttcg caagagaata tcggataatc atcacacttc gcgcttcc 228

<210> 2389  
<211> 94  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-G11  
<400> 2389

aaagacaatg aaaagaagga taaggaaaaa taagggaagg tggaattgga taggaaagga 60  
ttattcccac ttcttaggaa ggacgttact ggat 94

<210> 2390  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-047-Q1-E1-G2  
<400> 2390

gacccacgcy tacgggaatg gcggctttcg aggtcgagct tcccctggcg gacgtttttt 60  
tcgtgaagca aacaacaaca acaacaacaa ctatcggtcg cgcaatgctt acagtgaaac 120  
cccatcacia cttgttgaaa tgggtathtt tcaacatccc tgcgagaacg aactagtttg 180  
taagagtacc aacgaaaaga tcccgttttt taacgctcca atatttctgg aaaacaagac 240  
gcagattggc aaagtggagg aaatatttgg tcctattaca gacgttcact ttactgtaaa 300  
accagtggaa ggtgtattag ctacttcttt tgggtgtanga gacaaattct acatcggttc 360  
agagaaactg ctgccgcttg aaagatttct tcccaagc 398

<210> 2391  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-047-Q1-E1-G3

<400> 2391

agcaaaagga cataagattt aaacggcagc atggaggaag aaactggtac ggaacaacct 60  
gaaacacaaa cagcagggga aactgcacaa gaacaaacag acagtccggc agtagaaaca 120  
gagacctttt cgaatcaata tctagagcag cttatcttgt cgtacttgaa acaccaatgt 180  
ttttcaaaaa ctgccgagtc ttttgcgaga gagattgctg ttgaagatac agtggaagaa 240  
ggttcagcgg aaaccagtga aaaggagact tccattgagt gccttccaaa gcaaatacaa 300  
gtgctggaca aacatgaact ggaactgtta gatttgacga agacggtatg gcaactcata 360  
aagaaaggag agtgtttgcc aggtttggac tgggcanacg tgg tactg 408

<210> 2392  
<211> 345  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-G4

<400> 2392

ccacgcgtca ggagaacgac agtagcgatg ggattgttta gtagactgtt tgtgaaaccg 60  
agtcgtgtac cgcaaagagt cgtagagttt caaaagcgca aggcggaagg ctactttaca 120  
tacaacgccg ggaagtacga ccgatacatc aacacaccta ttacctgtt tgtgtccttc 180  
accggtcttt atgcctttat tgacggttgt ctttgggcgg caggaaagaa ggaaagtcaa 240  
tcgtgaatag cgttttttgt ctttgtggac agtcttatga actagtgatt cgtttgttct 300  
gccagtttta gtttcttgta atgaaagttt cttttttttc cttgc 345

<210> 2393  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-047-Q1-E1-G7

<400> 2393

agcggacgcg tgggccacgg gaccggttat tggtgcagct ggagggttgcg atgtatttgt 60  
ttcacgagtt ggcacacgaa gtactattac tggtacaggg acatatttat aggagaacag 120

tccatcggtc catattgtgg cagtacaacc gaccgaatct cctgttttat cgggaggcaa 180  
 atctggacct cacaagattc aacgaatatg tgcaggattt atacccgata tattggatac 240  
 cagcatatac agtgaactac tocaagttag ttcagccgat actatcgca tggaacgaag 300  
 gatggcaacc gatgaaggtt tattggtacg aatatcttct ggagctgcag tttatgcttc 360  
 cattgctatt ggaaag 376

<210> 2394  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-H10  
 <400> 2394

cacgcgtcag ctcaacgacg taatgagact cactcatttt ctcgttgttt tgtcttttgt 60  
 agctgttttc ctcgtagctc atgcagttcc cgttggagaa gatgcattca gtttcagtca 120  
 gacttttggga aatgcttctg cttcaggcaa cgcctctgtt attccagcta caaccaagat 180  
 cccaagtta gaagtaacta gtagtgccct atcaaaggac aatggaaaag cagctcaagt 240  
 agactttgca gattactcaa agggatatcc ttgcctagc tatttttacg ctccttctta 300  
 cacatcctat gtggaatttc ctcaatatcc atcctatcca tcatggcctt cttttaatga 360  
 gcagcctgcc tttggtggct tcgattccaa tgcagagttt ggaaagtctg aaattttcgt 420  
 g 421

<210> 2395  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-H12  
 <400> 2395

ccaagcgtcc ggtggtggtg atgccctgga ttgagctacg tagtggcaac tccgctgtct 60  
 tgaaagacat aactgcaagt attgaaaagc ctgacataaa atggataact aggacgaatc 120  
 tcagtacttg tctgaattct gcagaaggaa atgttacggt tgacttgtcg cggcagtgtg 180  
 gcttgaagga tatattttca ttgaagcttc tcgacaataa ctttaagttg gcgtgtttta 240

atgatgcctt gtttttagtt ttaccaggct tatcctttgt tattactggg aatcgtatat 300  
tctgtagacg ctccgacttg aatgaaacgg aagcattgga gtccctgcttt tcgtttatga 360  
agatatgccc cacgtacaag tcgttgag 389

<210> 2396  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-047-Q1-E1-H2  
<400> 2396

gcccgggcca cgcgtaaggc tacgcatgtc gtcgaacggc ccgtaccgct taagaagagc 60  
tcaaagggaa gatgtcgaaa acattttatt tctgataaag cagttggcag aatatgaaaa 120  
agaaccagaa tctgttcaaa taaatgagaa agatcttgaa agagatgggt tcgatacgca 180  
gcctcctcta ttttacgtcg ttattgccga agtttcgttt aggaacagaa tgtttgga 240  
tgtgtagggt ttgcgttatg gttttatgtg tattcgactg gagagcgctt catttggaag 300  
atcttttcgt gctaccacaa tatcgcggtc aaggaatang caaagctttg ttaagatatt 360  
gtgctgaggt tgcccttgct gaaaagtgtg agagatatca atggaacgtc t 411

<210> 2397  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-047-Q1-E1-H3  
<400> 2397

agcaaagca acaacaggag acaaagtcaa tgaaatttca ttaccacatg atacaatgga 60  
tgtctacggc atacaggagc tcttaaagtt aatgtcgcca agctggagaa cggaacaacc 120  
cgattatttg ctacttacac ttggaataga cttgacaagc ctaggactta acttgaattc 180  
tacggagccc ttgtatttat cctttgaaac tccgtttctt gatatgaacc gaggtctcta 240  
tcatgaacca gaatatagtc ttccggaatg ttacaaaatg gaacaaaagc cgccattatt 300  
gaaattgggt catttttagga agtttcaatt gcaaacatta ttttatatat tttattgtat 360

gcctcgagat gcattacaga tacttgacgc

390

<210> 2398  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-047-Q1-E1-H4  
  
<400> 2398

cgtaagggga cagngtgtgt ttgtgtgatt ggttggtata aaggcgccta ttttcaaaga 60  
gtccaaccta gtgagaaaac atgaatccgg aatatgacta ctttttcaag ttgttgctga 120  
taggcgactc tggagtggga aagtcttgcc tcttggtgcg ttttgccgac gacacttaca 180  
acgagagtta tatatcgacg attggagtag actttaaaat tcgcacgata gaactggatg 240  
gaaagaccgt caagcttcaa atatgggata ccgctggaca agaacgtttc cgcactatca 300  
cttcttcata ctatcgaggt gcacacggca tcattattgt gtatgacgtt accgaccaag 360  
aatcgttcaa caatgtcaag aactggttgc acgaaattga tagatatgc 409

<210> 2399  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-047-Q1-E1-H5  
  
<400> 2399

agcgtttatt ggaagacttg cctcctccaa aactggcact taatggcgct ggcggtccaa 60  
cagcaactga acttgcacgt ttgcttggaagggtggcac tatggtaact tatggaaatg 120  
cttccgggaa accatttagt attcctacta gtctatttac aacacaagat atttcaactga 180  
aaggattctc gatgcttaat tggttaaagt ccaagtcaga gcaagatgtg aagaaaatgt 240  
tgcaaagtgt cacacaaatg atggaaaagg accagttgaa gtttttgatc gaaaggaaaa 300  
agttggaaca actcgaaaca acattagaag cgттаaccac aaaagaacct caacaggaaa 360  
gaagaatagt ttttag 375

<210> 2400  
<211> 357

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-H7  
 <400> 2400  
 gacccacacg taagggagga gaatggtgac caccacacgc tgcggcattt tgccaagttt 60  
 cgtttcaagt ggtttccaag tacagcttgc caaacagtta tcttctgtta ttcattcatg 120  
 aaatacatgt ctatggagaa aatgttattc gcaaaaggtc gtcgtgttgc gttccatacc 180  
 aacatctata gttgcaagtt acaactacag catatttcac gacgaccata atcggtcgac 240  
 agtaaaagta gattcacgag aatcagccta caacttaaat aagccgttgg gtttggtatt 300  
 ggaagaatca gaagatggaa cggtagctgt agctgataca gattctccag ggaatgc 357

<210> 2401  
 <211> 179  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-047-Q1-E1-H8  
 <400> 2401  
 cgaccaagc gtacgggagc aagcttggaa gtcgccgcag tatatcagag attgtcacat 60  
 gtcaagtccg taaagcaagt ggggtcgtga agctgtgtgg aagagtgccca cattgtgact 120  
 gcgaagaagt ctgtacgaga tagttcgact gtggggcata ttggagcttg tagcgggaa 179

<210> 2402  
 <211> 290  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-A1  
 <400> 2402  
 cccacgcgtc cgcccacgcg tccgcccacg cgtccgcgga cgcgtgggct tggaactaag 60  
 gaaaagatgg atgcaacaga acaatatatc agaagaaagg aacgatagtg ctgaggacgt 120  
 cagctcaaac tcatttgcct gtgttgcgag tgcagtttcc tcgaaattca tccaaactat 180  
 ggctgagaag gaagggtttc aatttcgtga aacattaaca ggtttttaa ggttgagtca 240  
 tgccgcttta aaactggagc aacaaaattg tcaactttta ttagcatacg 290



<210> 2403  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-048-Q1-E1-A11  
  
 <400> 2403  
  
 cgcggtgggcg gacgcgtggg gcgatatgca ctgcctcgga acggttatTT gttttgtgtg 60  
 ttgttagata ctttgatgta gaatagttga caagaaagaa gaaataggat gaacaagaga 120  
 tatacgaata tagggacaac tgatgctcaa ggcaccagtg atgtgtatgt ttatctgaat 180  
 ttgccacttt tacttccatt tctttagatg atatataat gtgtgtgtgt gtctgtacta 240  
 attttggact aaggacatgg tttctagggt ttattgcaaa aaagttgaat agtaactcgt 300  
 tctatatggt tcgttgagta atgtctagag ac 332

<210> 2404  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-048-Q1-E1-A12  
  
 <400> 2404  
  
 tgaaaaacga acgagtcctt tcggtagtaa ctttgaagaa tctgaagctg cgtaattgcg 60  
 cgaacggtca cgtcacttgt atgaaaagta ctagctcaag gttacaactc gagcaaaaca 120  
 atactgcaat tcacttggtc gatccattgc ttgcaagcaa cttaacgagt caaacagcga 180  
 ctgcaagaga caccaacggt actattcttg caagattagg tatcgcttag tgcaacaaga 240  
 tacgtatata ttggtatatt tgcaatttta tttcgcttca aaagatgcta tatttactta 300  
 caagaacaaa gtcacttcac tgagtgtctt tgatgcaacc gtcgttgctt ttatgacagg 360  
 cagagttcta agtatccaat gatacttctt aaacaactat tgttgtatgt aacaaaaaag 420  
 agtttacgct c 431

<210> 2405  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-A3

<400> 2405

gtccgtgtca tctcatgact tgccttgtcc tctgttgag attatccgca aagtgggtgca 60  
tgaaagggat ggaacgaaga tgatagaaat gttggcttcg tttccttcca gtcattgggg 120  
aagtcttcga atgaatgctt cggttgtttc ctggctcactt tccgacaaaag ttcccaagtc 180  
cttttcggat ggaactcgat tccttcgcca tattggaagt ttgaatgaaa ccacatttcg 240  
tattgtattg aatacgacga tggacgaatc ttttgccgta gatatgactt ctacttattt 300  
tgggccttcc tatgaaacgc tagaaatcat tcgacgtctt cctgattgga cagatgcagt 360  
tacttttcag actagtggag 380

<210> 2406

<211> 424

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-A7

<400> 2406

aaccttcacc tgggtgcttg caagacgcga gtagttccaa ttctgataaa gaaggtctcc 60  
atattggccc aaactgtcaa cttgtagttt gttctgttga taacttgaaa gacttcttgg 120  
gtcagcaagt ttatgaacaa ctccagaaaag tatactcgga taatgaaagc gttttgatga 180  
agttggatcc tctcgcgaag ttgttgggaa gaaatcttga acgattatgg aggagcgatg 240  
ttcctatggt gcccgaaact tcccagatgg atattgtttc caccagaact gatacagacg 300  
agatgcaagt aacagagcgt aaaggagttg tctcagtgcg acaaggccag tttgattgga 360  
tggagttctt gaaaacatat tgtgatttga cagagtctga agcaagagaa tctagttatc 420  
gact 424

<210> 2407

<211> 325

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-048-Q1-E1-A9

<400> 2407

aaggacgcgt ggggtactcc tcgaaagcta tataagtagc gtatgcagga aagaagaagg 60  
taaaggaaga gaaggaagaa gcagagaggg actatgagcg agaaggtgga tagtcgagag 120  
ggaaaaagcc cagaagccaa gataaggtat caaagtaaag aaagaaggaa aaggagaaga 180  
agagagggta agcttataag cagcaaacca gagaggaaag cgtaaagca tgaaagaaaa 240  
gaaatccgaa aaagaagaga aaaaggtaag aaagaagacc gaatcaaggt aagangtana 300  
ggatcaagaa gagaagagag aatgc 325

<210> 2408

<211> 186

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-B1

<400> 2408

acgcgtccaa aatgtagtca ctcgtggctc attaacaacc actttccggt agactatcga 60  
gaacatgcgc ctatctaacc ttctgacttg tccctctgtc ttgcgaagaa tcctgaccag 120  
ccttttattt tacgtctttc atattttcat ccgttattgt acattatctg cattttggat 180  
ttggat 186

<210> 2409

<211> 261

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-B10

<400> 2409

gcgtccacat ttgagtgttt tgggtactgg gctgaatata cttctcctgc actatgtctg 60  
cgaatattcg aataaagtaa ccaagtatgc aatggttttg gaatttccgg ggccgccttg 120  
caaccttcgg aatccgtgga accggttggc caccgggaat tctgttcaaa ccgttcacaa 180  
ggatttaaga acacctacgt tgggaaagga tgcactttaa aatcccgtgg gtacagagac 240  
ctgtcctaata tgatataaga a 261

<210> 2410

<211> 119  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-B3  
 <400> 2410  
 ccgttccgct ctgtttccag tctctcagtt cttatgtcac cgggactgct ctctgtcacc 60  
 ccttatcgca gaatacggat tacctcagtt tgcaaaacag tccgttttcc cgggtctta 119

<210> 2411  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-B7  
 <400> 2411  
 attggaattt ggtttccttt tggacattta gaacgcgcct ttcgtaccga ttggccgata 60  
 caaggtcatc cctatactta tggatatacct agtttgagat atgcaagtca atgttccagt 120  
 ggaacttttc gtcaacagtt tgcaaggcat aagttgggag ggctacatat atccaattat 180  
 tgcttccctc cctttgttat cttaaaggaa ctaacaggaa cggaatatgg aaacgaaaact 240  
 cttcaaaata tgacaaagga acagtgtcaa caacttgtcc acgactgcca aggccactct 300  
 tttggaagaa ctgttccttt agaccaagtc ccagaagaag acttgatgc agtgtatatt 360  
 ccttggtttg tcaagtgtaa ccctaaaaga tatccatcgt tgatgcatca 410

<210> 2412  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-B9  
 <400> 2412  
 ttggagcatt tctgcaacat ccctcgagag agaaatgtat aaggacggcc tctacgctaa 60  
 cagtcataga cagagctctt actaaggcaa attgagaatt ccaaactgga tagagctcca 120  
 tgttttggaa tagagcacag cccttactct cctcattggg tacacaatag aatctttcct 180  
 tattcagata gaaattttgc taagtgcacg atacaacaag tgaagttcgc gaatttccgg 240

ctctaattcc atctctacat tttctgtaca gggtaggataa ctagaagctg tcttcattcg 300  
ccatgaagtg tccactatgt cacgtaacta tctatttgag tgattcggat 350

<210> 2413  
<211> 169  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-048-Q1-E1-C1  
  
<400> 2413

gacgacgcgt ccgaccacgc atccgcgatt gcctgccttc tctcgacact cggttggtttg 60  
tcctttgaaa acacgtttta gagtcattcc aatggctgca gtaaccttta agagacagaa 120  
gactgacgta cctggtattc tacattgaga aaatgctctc aacagcttt 169

<210> 2414  
<211> 179  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-048-Q1-E1-C11  
  
<400> 2414

ggacaagagc gaagtgagtc cagctttgaa tgtgctttat gaacactatg aacacgctgt 60  
gcctgattct ggccgatcag caaatccgcc tgacgggttt ctccagttca agtcagagct 120  
gttgatagtg actggtgata tgctacttgg gtaagctggt gtttatgtct attttcatg 179

<210> 2415  
<211> 342  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-048-Q1-E1-C12  
  
<400> 2415

actgaggaga cataagatgg aataaaaaaac caactatttg cacaaaaaaa aaaaaaaaaa 60  
aaaaaaaaaa ataaaaaaaa aaattgaaaa gaaacaacaa aattaaaaaaaa aaggaggagac 120  
gcacaaaaag tttccaagct tacttaaacg tgctggccaa cttaatgctc ttcgaaaaatg 180  
tgaccctaaa tttcattcat tggccttttc ttttaactcc ccgggttttg gataactcgg 240

gctttatcta atttaccggt cttggaacac atctgccttt ccccaactgt cttttttttt 300  
aacaagtccc cattttttcc tcttcccaag aatttttcag cc 342

<210> 2416  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-048-Q1-E1-C3  
  
<400> 2416

taattggaac aaggtttgaa cgccttaaaa aacaaacctt accaattaac ccaccaaaaa 60  
agggtaccgg aaataagtcc cccaagggaa aattaaaaat cctaattaac caataaaacc 120  
caaggtctca aggaatttca aaagtttttt aaccanactc cgaaactcgg taagccgaac 180  
tttgaagaaa accaactccc tatggagaaa atgttgtctg tccaacgatt ggccgcttcc 240  
caagctatct gagagacatt tcgtaattct gccagaatt tcgggttaaa atccttgga 300  
aaaatccatt ggtcctttta cttccccaat ttgaaatcca agtgcgttaa tttgccaaat 360  
taattgtgtc ctctcctcct agaccctggt atttagtaga atagatatag taatac 416

<210> 2417  
<211> 369  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-048-Q1-E1-C5  
  
<400> 2417

actcacaagt ccagagaaat gttcagatat tagaggtgtc aagataccaa acttttctgt 60  
gcggtttata aaaaagtagt ttcgtgagaa aacgcaagag acacctaata ttagtagaag 120  
accttgtaat gtttcggttt ccaagcgagt ctgaagttac cggcgaaaca acagattctc 180  
ctagcttaca agtgtcttct cacggaacgc cttcgacctc tcatagtctc ccggaatctt 240  
cttatcatga gtattacgtg aagcataagt attcactgta tagaacggga ctgggtcgaa 300  
aacattgtc agatcccaat tcgactcatc aatcttcacg ggttgagct tatatacatg 360  
ggagccacg 369

<210> 2418  
 <211> 313  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-048-Q1-E1-C8  
  
 <400> 2418  
  
 ggctgaccca cacgtccacc cacgcgtccg cccacgcgtc cgcccacgcg tccgattttg 60  
 tgtttgtgtg tagtgatgga tagggactgg ggtgcaaaga caggaggtgg aggagttgcc 120  
 tccaaagaac aaacagatat ctcaagaaga gaaagggtgc gtcaacttgc tttggaaacg 180  
 atagacttga aaaaggaccc ctattttatg cgcaatcact tgggaggcta tgaatgcaaa 240  
 ctgtgtctaa ctttacacac taacgaacga aattatttgg cacatacgca aggaagaaga 300  
 catcagatga acc 313

<210> 2419  
 <211> 113  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-048-Q1-E1-C9  
  
 <400> 2419  
  
 gacgacgcgt ccgaccacgc atccgcccac gcgtccgcct tggcatcgag aagcgatgaa 60  
 gggcgtggct accatcgata tgcttcgagg agctggaagc gggctttgat ccg 113

<210> 2420  
 <211> 401  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-048-Q1-E1-D10  
  
 <400> 2420  
  
 tcgggaaacg gtaacaaaat ggtaataact tcggaaaagg aaaaaacaat tggcccaaaa 60  
 attctcccc caaattcttt cgtaaggcgc aatcctaagg gaaatatggg cgggtgttgc 120  
 gcggagtatc aagtgcctac taagcaagtg gtgagcttgg gacatcncga agcactggga 180  
 ttggctgggt ttgctgcaac cgactttatg ttgagttgta tcaacgcaaa gttgttacct 240

agcagtatga caaatagtat tatcgcactt ggtttctttt atggaggttc tgcgcagctt 300  
attgccggta ttatgacctt tgtaaagcag aatacgtttg gtggagttgc attttcaagc 360  
tacggtgcct tttggttaac ttttggagtt cttataacat t 401

<210> 2421  
<211> 313  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-D12  
<400> 2421

tggcggttca caaatgtttc gctcaaggag tactccatat atttatcgat ggcgtcctgt 60  
aactgttact cattcagctg accacaaaga tggccttaag gattctttga gaaccactca 120  
aatctttcga aattcagaaa cttatcgtaa caaggacgac atgctgaaag ttgaagttat 180  
acccacact ggcctaccag gtggaaagca tagacctcgt gcctctcctt gttcagctat 240  
ggagaatgtg atgaacaaca ataatgactg gacttgact gctaggaatg cttcattcga 300  
gatgcatagt gtc 313

<210> 2422  
<211> 138  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-D4  
<400> 2422

acgcgtccga ttccgagttc gcatgcacct agtcgtcgtc cttgtgattg cagtattccg 60  
aattcttttc agagatactg tgatcgatcat gtatgtgctt gccctatcag ctgttacatc 120  
acatccaagt atgggatt 138

<210> 2423  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-D8  
<400> 2423



cccacgcgtc cgcccacgcg tccgcgttgg taagcaaaca tgggagccta caagtatatg 60  
 caagaattgt ggagaaaaaa gcaatctgac gttatgcgct ttttactccg cgtccgtgct 120  
 tgggaatatc gacacttgcc ttcggttcac cgagcttctc gtcccactcg tcccgacaag 180  
 gcaagaatgc ttggctacaa agcaaagcaa ggttatgtaa tctacagagt gagagtccgt 240  
 agaggtggta ggaagagacc agttccaaag ggtatccaat atggcaaacc taagaatcag 300  
 ggtatcacac aactaaaatt caagagacat aagagatcag ttgcagaaga ccgagctgga 360  
 agaaggtgcg gaaacttgag agtcttaaac tcgtattgga 400

<210> 2424  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-E10  
 <400> 2424

cgtccaattc aatatcttta aatgagctac ctaaaaggga atcaaaaaaaaa ggcttccttt 60  
 gtggcctcgc gtggttccag tttgttcctt tgggatattt gtttaatttt gatcactaca 120  
 agtgaaaact actcttcgac agagaaaactc cctactataa ttcttggttaa aataaaaacta 180  
 tttattccta cacttcttta taaaaaaaaa atcaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaagaagaaa acaaaaaaaaaa aaaaaaaatt aaaaagaact tatctgtaaa atctcaaacc 300  
 ttctaaaatg ttacctcaaa agatattcac ttgaccaacc t 341

<210> 2425  
 <211> 192  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-E11  
 <400> 2425

gtccaaccac gagtccggca taaacttggg acagagtctt ggaacttggg cttcctatag 60  
 ttgcacacgt agtacctgta tgctcacttg ctgctttgat cttattccgt tcacccttga 120  
 tgagagttgc tctttcgagt tttggatgcc tattaagggt cttcctcact tacatttacc 180  
 cactcctgca ct 192

<210> 2426  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-048-Q1-E1-E12  
  
 <400> 2426  
  
 ccgcccacgc gtccgcccac gcgtccgcc acgcgtccgc ccacgcgtcc gcttgacaag 60  
 gacaaacgtt ctttagcttc tacttggtgt cacatcttgt ctatcttatt tgcgtttgac 120  
 gcaacctacg agttggaacc tttggatttg gtgattcagc agtgctccta cgtggcagac 180  
 tggttgagta gtaacttggg ggacaatgag tcaactccgg aagacttccg tcttgccggt 240  
 ttgtcttcgt tgtgtcagtt cgttcgacat gacagaccaa gacttgcttt tgcctcgaaa 300  
 gataacataa agaatctgtc ttatgtattg gaaaataaca agcaagagcc tgtttcaatt 360  
 atttataaga caatctttgt gttttggatg ttatcttatg cacacagtgc tgaggcaaaa 420  
 cagt 424

<210> 2427  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-048-Q1-E1-E2  
  
 <400> 2427  
  
 gtccgactgt gaggtggcat acggagtggg attggcatat gttaaccacg acgttccgac 60  
 gtggttgaa ttccacgact tgcggaaagc tttgggtgaa gcacgcatta tgtagtctc 120  
 cgttttctac tgtcacaggt ggagatgtag ttgtaaactc acatcgactt atctgcagct 180  
 gcaagtgagc agattgctcg taatggaaca ccatggatgg tgagattccc gtttatctcg 240  
 tttctttgta tggaagctgc gctacgatag ttcttgttgt ggagtctagt tgtttggtac 300  
 tacagcctta atttgtggg tgttacaact catcctaggc tatatacgta aagttagacc 360  
 gat 363

<210> 2428  
 <211> 69  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-E3

<400> 2428

ctttggttcc cgcattgcgtt aagtttgagt ctgtgaaaaa gttgcacgga tggaactaca 60

gttttaatt 69

<210> 2429

<211> 380

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-E5

<400> 2429

atctttacga gaatccttct tatgtctcac cgaatcaagt tcgaagatcc ctgaaacttc 60

aacaagccta caaacggagg ttgaagttga agcggaaagga agctcagaag actcgagtgg 120

aagagaataa gcttttatct gatcccgttg aagatatgtt tcgttcctaa tggttatagct 180

gtagactttg tgtgtccaat acacctaact ctatagagct gtaaaaaaca atagcgtttg 240

caactaaaaa tgtaaaaact acaaaataat aaaaaaaaaa tcaatgaaaa gtaaaaaaca 300

aataaaaaat aaagtaaaaa aaatggagag tcctaactgt aaggatccaa aggtaaacaa 360

aaaaaaaggg gcggccctca 380

<210> 2430

<211> 407

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-E8

<400> 2430

acattccgta cggtgtttgc tgctctcgta tttcatcaat tctttgaagg atttgctgtc 60

ggtactactg tttccgaagc ccagtttggc acttggacca ctatagtaat ggtactttgc 120

tattcttttg aaactccaat cggatatatct attggatttg gtattgcaca cacttatcag 180

gaaaactcct cggcatcttt gttaacgaga ggcatttttg atgccatctc cgggtgaatt 240

ttaatataca caggattggt ggagttggtg acttattggt ttacgcgcaa ctcgaacttt 300

ttaagacgca aagccataacc tattttttagt attgtgggat ttgtctgggt aggagccatc 360

tgcatggcga ttatccgagc ctgggcctaa gaataaaatt gtttgag 407

<210> 2431

<211> 286

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-F3

<400> 2431

cgtccgattt caacaaactg gaagctactt tgttctatgc caacagtttt catccttggt 60

tattggaaca cttgaacaac tgtcagacaa caagtttgtt cccagagta tctctagtca 120

agaccgcgcy gaaaaaacac ttgcgagcaa caagtaccgg ttctaaagct aatctgaaag 180

aagaagcagt agagactaac acaagatggg acgctccgcc tggcaattgg gaagagcacc 240

cgagtcgctc aggttccaca ttttccgaga taaagttgcc aaagca 286

<210> 2432

<211> 212

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-F4

<400> 2432

cgacgcgtcc gcggacgagt gggagagtat gagtatgttc catatgccac ttctacacct 60

tatccatcgg tatctccaag ttatactcct tcagcatatc aaacaacttc tgcttattaa 120

agagccgaag actggataga tttttgaagt gtctcgtgtt caaagaaaac atgagacatg 180

aagcacacag tataggattt ggtttttacc cg 212

<210> 2433

<211> 432

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-048-Q1-E1-G10

<400> 2433

gaccgacgcy tccgagaaaa tatcaagtcg aagatacaag acaaggaagg tattccccca 60

gaccagcaac gtttgatttt tgcaggtaaa cagttggaag atggtcgtac tctctcagac 120  
tacaacattc aaaaggagtc tactcttcac ttggtcttac gtctgagggg tggaatgcag 180  
atattcgtaa agactcttac tgggaagacc atcactcttg aagtggagcc cttagatact 240  
attgaaaatg tcaagtcgaa gatacaagac aaggaaggta ttccccaga ccagcaacgt 300  
ttgatttttg caggtaaaca gttggaagat ggtcgactc tctcagacta caacattcaa 360  
taggagtcta ctcttcactt ggtgttgctt ttgagatgtg gctgttaatg agtttatcct 420  
gaagttgttt tt 432

<210> 2434  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-G12  
<400> 2434

acccgtccga ccacgcatcc gatcacgagc agtttcatca caagaaaata cagattccac 60  
gcttatatcg aaagaagtat tagaatctca aatcatggaa atgctagaaa gagagaacta 120  
tgaaggagca tttctcttgg ctctcggagc tagtaatttg gacgtcgtag aatggctatg 180  
tgagaagttg gattgccatg aattgtttca atctgatgag cctcccttgt cacaagtaac 240  
attgctatct cttattcagc agttaggggt tgaccttgaa agaaaaacag aaatgaaaat 300  
ggaatggctg aaagaagccg tcatgttatt ggagccttca gatgaaatga ttcaagacta 360  
tttttcagat atttgtcaa tgttggtgca gaacttgaa catcttctag aagctgggtt 420  
gaataattct cgactttcag ttcatttgca g 451

<210> 2435  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-G7  
<400> 2435

agtcgtctgt gcgtccgatt cactgcggac tgtctttcct ctttgtctct cgttatgcga 60  
tacttgact cttcagaata tgtcaagata ccacaaggag tatcgggtga agttcactct 120

agaaaagtaa gagtaaaggg tcctcgtggt gttttagtaa aggatctttc tcacgtcaat 180  
atggaaatga cgaaagaaaa gtccggtgaag agagttcgtg tgactgtatg gcatggctct 240  
cgaaaagatt tggcttgtct caacacagtt tgcacgcata ttaaaaatat gatcaccggg 300  
gtaaccaagg gctatcgata caaaatgcgc ttggtatatg cacactttcc tatcaacgtt 360  
actgtgtctg ataatg 376

<210> 2436  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-G9  
<400> 2436

gcgtccggtt gacagagtgt gttgataagt gtgagtatat taagtgagta taggaaggag 60  
aaggggaagtc aggagcagtt gttgataatg gaagggatac tgtagagtt gtttagtgta 120  
agagacataa tacgatttta tataagttat aagggagtggt agtgagataa ggatggacga 180  
ggagatggta atgataatag catgtatggt agtccattgg agcaatttga agtggtatcg 240  
ctgtataaga tggagataga aggaagggaa atagggataa gtaacatagg agtgtatata 300  
ataatgatga gtatagtatg ggtaaagaac atgaggaaga aagaggcata tacggg 356

<210> 2437  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-H10  
<400> 2437

accggtccaa gtcgtatgac gttggtgcct cattaagcca tcgttgaact acatctttta 60  
tctctttagt caciaacaca aattaaagaa caatgcgtga ggatttttct ctacatattg 120  
gtcaagcagg tgttcaagta gcaaactctt gctgggaact ctattgttta gagcatgggtg 180  
tcaacgctga tgggaaccatt gataaaaagg gaaacacagc atacgaagaa gcttttggta 240  
ccttctttac ccagacaagc tcgggacgat atgttcctcg ttgtgtattt gtcgacttgg 300  
aaccttctgt cgtagatgaa gtccgtacag gtgcctaccg ccattcttat catccagaac 360

aacttatttc cggcaaataa gatgctgcaa acaagtatgc aagacgacat tatactattg 420  
gaaatgaaat agtcgacctt actttggag 449

<210> 2438  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-H12  
<400> 2438

ggaagacacg ccagttacaa tcctctcaat ctatcggtga cggatgattt cacctttcca 60  
tataaacaag tgagctatat actgcaagat cacggcagca atggagaaga tgaagaagaa 120  
tcgcagcttt tttcgtcttt cggggtagca gagcctcctt tattttccat gtcgttgcca 180  
gtagtcacaa ctgctactag tgcgttgga agcgcggtga tgcaagaaat acttcgacaa 240  
gaaagttttc atctgcgtgc aagtgaccca acgataagcg atgaattatt tcaatccata 300  
gttactcgag aaaagagatg gagtaggcgt ctatggagaa actttcgacg acaagtttat 360  
gagagacggtt gtcgaataga agaagcagtc gttccggttg ttgctcatag tgctgcgatg 420  
catctt 426

<210> 2439  
<211> 335  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-048-Q1-E1-H2  
<400> 2439

acgcgtccgc ccacgagtcc gctagtcgac gagaaacaga ttcacttatg tattttgcca 60  
ttttggtgat tgttggtact tatggataac caaaaacaac acaaccatta ctcttggtgt 120  
tgctgcaatg ctcaccacaa ccaaccaacg acagcgagtc gttgcaacgg atgttacgtg 180  
acgaatatc tttgtgaagag tgtgttgga catttggacg agctgaatcg ttgtctgttg 240  
cgagttcaag agttgtgtgt gttggacaag gaacacgagt gaatgaatgg tgcggcaagt 300  
taggagaatg ccacaatacg gagacgtgga tatat 335

<210> 2440

<211> 281  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-H4  
 <400> 2440  
 catcagacgt cgaatgggtt tctggacccg cttacttagg gaaacgaaaa gagagcataa 60  
 ttccagcaac acacgggtta acttaacgtt accttttgcg ctatcagacc gtagtatata 120  
 tgccaaggct ttggagtctt tttattatgt ctattccacc gttgaagaag agtttgaccg 180  
 tcaaagaaga aattttccca aaataggggc gctttacttt gaagagctgc gaaggaaaaa 240  
 ggtatctcta gaacaaaacg tgctttttca atactaaaac t 281

<210> 2441  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-048-Q1-E1-H5  
 <400> 2441  
 cccacgcgtc cgatcaaagc tagtgatagc tgggtactcct cgaaagctat ataagtagcg 60  
 tatgcaggaa agaagaaggt aaaggaagag aaggaagaag cagagaggga ctatgagcga 120  
 gaaggtggat agtcgagagg gaaaaagccc agaagccaag ataaggtatc aaagtaaaga 180  
 aagaaggaaa aggagaagaa gagagggtag gcttagaagc agcaaaccag agaggaaagc 240  
 gttaaagcat gaaagaaaag aaatccgaaa aagaagagaa aaaggtaaga aagaggaccg 300  
 aatcagggta agaggtanag gagcaagaag agaagagaga atgctgggtg gagtagcgaa 360  
 acaagag 367

<210> 2442  
 <211> 316  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-048-Q1-E1-H8  
 <400> 2442  
 aacctcaagt ggatcatccc acgttggtaa agatagactt gtctcaaggc agcttttaaag 60



tactccaaga ctgtgacaga gatttagaat gtgatcataa taccaagttt cagttggaac 120  
 ttattcagta tgggtctcttt tcacctggtt tttggacgag agaaaatggt ctgctcttct 180  
 atttgagagct cgtgtcaggt gtattcataa aggacactct ctaccttttc caaaacaaaa 240  
 ggtaaagaac atttgtttgc gagtttaatg ctgttggttg agacacaagt ttcaatggat 300  
 gccaacatta aaacaa 316

<210> 2443  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-A1  
 <400> 2443

cggacgcgtg ggttctggtt ggatttggtg tgtctgcgtc tgttggtgcg agtcgagttc 60  
 ataaatggca aacgagaacc agggagaggt agagacatat gagttccagg cggaattaa 120  
 ccagcttatg agccttatca tcaatacttt ttacagcaat aaggaaatct ttttgagaga 180  
 gttgatatct aatgcctcag acgcactcga taagattcgg tatcagtctt tgactgacaa 240  
 gtcagttctg gaggcggaaa acttgagat tgaaatttac gcagataaac agaataagac 300  
 tctaactgtg cgcgatacag gagttggtat gactaaggca g 341

<210> 2444  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-A10  
 <400> 2444

aaaaaaagag aaaggaaaaa actgagtatc aggaagaaaa gagggagtat atgaggaagg 60  
 aaagatcaag gaagtgagag tgagagaagg agtaatgtga atgatcgcag gaaagtaatt 120  
 gaagaataga gtggaaagcg cgtaccatth gcataatgtc ccagcgagtg aaaaaggaag 180  
 caaaagtctc gaggaagaag tagccatgta acgatcgaag ctaggtgatc ggatgctgtc 240  
 catccgaact aaggcttagc caatctctgt ggacaaagat gtggcagaga tggcaaatg 300  
 ggtgacaggc tactcagagc tagtgatata tgggtactct cgaacgctgt ataagtagcg 360

tatgcaggaa agaa

374

<210> 2445

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-A12

<400> 2445

atgatttgat tcctgctggt gctttgaaga atactaaaat gaatggtgcc ttaatgaaac 60

gtttcggcag cagacaccct gaggaagtg aggctgtttc gaggcgaact gttgcacaag 120

gagacggagt tccaaaggta ttgtcgaatg acaaaaagca actgccgcaa gacgactcga 180

tagaacatct catctcaagt gagattgaag aatatcagaa agtgccatgt taataaattt 240

ggatcttggt caagtcgtaa aaaaataaaa aataaataaa acaaaaaaaaa aaaagaaaaa 300

caaaacaaaa aaaaaaaaaac aacaaaagcg atccatcaaa aatgatcaaa gctaaaataa 360

cctatccaga aaaccacata aataaaaggg ggggcccccc aaaa 404

<210> 2446

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-A3

<400> 2446

catccagaac gctctaacct ttaaatacat tgagcatggg caatggttgc aactaatgcg 60

ctgagttgca tctctcactc tttccttata gctgcagcag ttgcagccga cgtattttca 120

agaggataga tggggatatg ctcaacagac acaacaccag catcagtgcc aacaagtatg 180

tttacagtat gcatactatc acagtccagt ctgcactttc gtaaccacac aaagcccata 240

ctggacccaa tgctcgaaga ctgtgcaaaa ctttgtccca agccagtgca gtacgtatac 300

ccaatctcct acatggacct attgcagcac ctacaccacc actagcgtac catc 354

<210> 2447

<211> 288

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-A5

<400> 2447

gctcatacct taaattcttt gaggattggc agtggttgcg acttatgggc tgacgcgcaa 60  
ctctaacttt ttaagacgca aagccatata tatttttagt attgtgggat ttgtctggtt 120  
aggagccatc tgcattggcg ttatcggagc gtgggcctaa gaataaaatt tgtttgagac 180  
gtcgtggtgc agatgactcg catgtttggt agttggttca agtttgacaa gagaaaacat 240  
ttgttgctac ttcttacaaa taaaaaagtt caaggacaaa ttgtagat 288

<210> 2448

<211> 335

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-A8

<400> 2448

aaaacagagt gacaagaaga gatggcaagg agaattattgg gtgcttatat gggagatgcc 60  
acagtggcaa ctctgttcag tatcaaaatg ttgttctatc ttactatcat gggtttctcc 120  
ataactatct tggctctcat gggaaagaac tcggatggta tttggataca tagtgtgcca 180  
cctgcagatc aatattgtgc atacaagtct tcattggagg tgaaccacca tggaattgct 240  
tcctattgca agtatatcgt tgccgtagct gctattgggt tggttatctc gtttttccag 300  
ttttgctacg gtctgttggg tatctttttc aagtg 335

<210> 2449

<211> 415

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-A9

<400> 2449

aaatataatg aaaagattta ttctttatct gcagaattat ttgaaagttt tcctttggga 60  
catttggtga tgggagaaaa ggagaaccaa cgagtattgg taattcatgg tggattatct 120  
agtcgtgatg gggtaacact agaagattta caaaagatag atagacatcg agaacctgac 180  
caaggctctca tggcagaatt gttgtggagc gatccacaaa aggaattagg attaggagtt 240

tcaaaacgag gaattggagt atcttttggg ccagatgtga ctcgacgatt tttagatgcc 300  
aatcggattg ccttgttagt aagaagtcac gaaatgaatg aacaaggata tgaaatagaa 360  
gcagataata cattgattac tgtattttct gctcccaact attgcgacca aatgg 415

<210> 2450  
<211> 338  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-049-Q1-E1-B1  
  
<400> 2450

ttttgactga aacatgacgg aaagcgacaa gtcagtgcct gttgtcttct caggtccatc 60  
tgagagctggg aaaagtacta tcatacaaaa gctgaacaaa gattaccctg atccaatagg 120  
atttaccgta agtcacacaa caagaccacc gcgaccgggg gaacaaaacg gagtagaata 180  
ccattttggt tccgaggaaa aatttaaaaa aatgatagag aatagtgaat ttatagaata 240  
tgcgaaatggt catggaaatt attacggaac aagttttcaa gcagtaaaga gtgttctcaa 300  
tagaggaagg ctgtgtgtgc tggacgtaaa cggttcaag 338

<210> 2451  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-049-Q1-E1-B12  
  
<400> 2451

agaattatcg gtttgcatac gatggctttt actcctctgg aggaagaggt tttcgaggta 60  
gaggtggccg tagaggaaga ggtagaggca atggaatata caagtttggg tctcgagggtg 120  
gttcatccgg tggtcgtggt ggtagagggt gcggacagaa acgtggcgga atgaacggcg 180  
gttccaaagt ggttattgaa ccgcatcgac atgctggagt ttttgttgca cgggggaagg 240  
aagatgctct ctgtaccacg aacttgggtc ctgggtgagtc cgtatatgga gagaagcgca 300  
tctctgtcga agtagaaaat ctcaacgata cttcagttat agagaagata gaatatcgag 360  
tatggaatcc atttcgattc aagtttagcag cagctatttt ggggggtgt 409

<210> 2452  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-C10  
  
 <400> 2452  
  
 acccacgcgt cgcgccacgc gtccgcccac gcgtccgcga ctcacaggcc tggatggaat 60  
 ttgtcgatca ttgtctttgg gaatctaggg attctcatac agcagacagt ttagtcgact 120  
 ttgtgtcatc tgtatgtctt ccctgagact tgtcagttct ttaggaatag aacctcctat 180  
 tctttcatgg agtaaataga aaatgaagta aaaggaggga atgaaaggaa gttatggcac 240  
 aaacacgtgc catcagcagc ggtaaaacgt gtgtagcaag cgtagagcaa atcaactggg 300  
 tgtacaggtc gactactaga gtaagtgtaa aatggatagg atatgacaga aagacgaatc 360  
 ggatgaaatg cacagatctc t 381

<210> 2453  
 <211> 186  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-C12  
  
 <400> 2453  
  
 actgacgcat aggttgatgg gtgttgtagg tggatcggtg agaattgtta gccgtagttg 60  
 acgctcccag ggtgcgaggc actagtgcc a ttgattgag cacaggcaaa gttaaattgc 120  
 aagcttgatc aagtcaagta tgcataagat gtgaacaatc agagatagtt cagtgttagc 180  
 tactgt 186

<210> 2454  
 <211> 333  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-C6  
  
 <400> 2454  
  
 acccatgcgt cgcgccacgc gtccggatgc aacattaaca aaacgcggat cgactgcaag 60  
 attcgtctcc agataagctt gtaagtagta tgcctagcaa ggggaatagt tcttagacgt 120

tcactaggtg aaagaacagg aagatagttt aagacgaaag tacggtaact tgccggataa 180  
aaagcacctt ctccagcaac tactcaatgc gaaccacatg cactaactaa aattttttga 240  
ctctgcagac gcaacttttg ccaaagtagg aaaggaattg gcctaagaag ttggcttgga 300  
atatgcctac ccaaactctg aggatgagtg ctc 333

<210> 2455  
<211> 352  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-049-Q1-E1-C7  
<400> 2455

acccacacgt ccgaacatga cctcgttcaa gtaaagaaac agctctttca atcgcttctg 60  
ataaaaagaa aaatgcaaca agagatagag ctgaaaaaat ctaggcggac gcgctgaagg 120  
atacgttctt cattaagcgt gcaagccacg tcgccagatc ttccaagctg tgcccccggt 180  
tcatttcagt gggcgctcgtt ctttgacgtc gtaatgggca ctgtccgtac gttactcaac 240  
gtaatctctg tgcaattgat gtcattttcg cgagtcgggtg tcttaccgaa taggtcctct 300  
acgttttggtc tgccatacag ttacccttgt cgaacggcta ttgggacacc cc 352

<210> 2456  
<211> 244  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-049-Q1-E1-D11  
<400> 2456

aattatacgt acgtacccaa ttgtcggcaa ggcttgcaaa gttttcccat ccttttcata 60  
tactttctgtt acagtatcac atcgcttgta tttcaagatg aggtcttaca tcaagtgact 120  
gatgcactca aattggaact ttctacctaa tgtgaaggat accgccgatt gcaactttac 180  
tggaatatc cttgggttgca aagaacgatt ggaataggct ggaattactc ggtaacatac 240  
gatg 244

<210> 2457  
<211> 233

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-D3  
 <400> 2457  
 cgtccaacca ctagtcagcg tcatgaccgt tctggaatgt aagtgctgtt tgggtgattgc 60  
 acatccctct actggactat cgtttgaaaa acatgtcgct gcacctttag gtgcacatgt 120  
 cagggtgtatc cgaagtgaat gcaatttggt accagatttt cgggttaggc atcgttagat 180  
 tcgctgaagc cacagcggga gatcatctat acacgccgtg cccttatagc gga 233

<210> 2458  
 <211> 336  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-D7  
 <400> 2458  
 aggtgattgg aacggctctg gttgtcacac caacttttct acaaagccga tgagagagga 60  
 tggcgggttac aagaagtata ttttgccagt gatggaaaag tttaaaggcaa aacataagga 120  
 acacatcatt gcatatggaa agggaaatga aaagagactt actggaaaac atgaaacggc 180  
 atccatcgat agtttttctt atgggacagg aaatcgtgga gcttcagtta gaattggcaa 240  
 tcaaacagca aaagatggca agggatactt tgaggatcgt cgtcctgctg cgaatatgga 300  
 tccgtatatt gtcaccatgc ttcttgtctc tacttg 336

<210> 2459  
 <211> 155  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-E10  
 <400> 2459  
 acccacgcgt ccgcgtatat cagaaagtca gtgcaaggaa taacacacac aaaaaataa 60  
 aaaaaaaaaa aaaaaaaaaa aaataaaaaa aaaaaaaaaa aaaaataaaa aaaagaaaaa 120  
 aaaaataaaa gggatggggg tggagctcat gaggt 155

<210> 2460  
 <211> 319  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-E11  
  
 <400> 2460  
  
 cccacgcgtc cgaaaagaca gagaagtgag acaataccat cgcagccgta ctgaacaccg 60  
 acacaggtac tcgaggagct ctgacactgg ctcatgggta gaacagtgc gatgaggaac 120  
 tatgcatatg gatatcgtat ctgcggtcga acctatgata caatcagcat ctatgggtta 180  
 gcatacatag agcactctgc acaacagaga aaatgtattc tagaaagtgt gcggcctgtc 240  
 acatagtaga gaagacatcg atgatactga cagcgagtat atgatgaggt acacacaata 300  
 gctgtcctaa ctgtcatga 319

<210> 2461  
 <211> 336  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-E5  
  
 <400> 2461  
  
 agtggatttg ttgcaagttg gttggtttct ggactttaag gcactctctt tctcttgttg 60  
 gtgtgactgt tgtagatat tgtgaaagat gggagtcaaa gttgggtatta atgggttttg 120  
 gagaattgga aggctagtgc ttagagctgc tttggagaaa cagtctgtag atgtggtagc 180  
 tatcaacgat ccctttattg atttggacta tatgggtctac atgttcaa atgactctgt 240  
 gcacggcgct tatccaggta cagtggtagc aaagaatgga aaacttgtcg tggatggaca 300  
 cgaaatggca gtgtttgcct tccgttgacc tagtga 336

<210> 2462  
 <211> 246  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-E9  
  
 <400> 2462  
  
 agaacacgtc gagcaacaaa taagactgga ttcttcttgt agagtaaagc gacaataaaa 60



ctatatattggt agtcacgctt gttcaagagg gaggcattgag gattctcgta tgggaagatt 120  
gatgacagaa cttcagcagt tgctaagata gacttatgac catgtatata tgatgtgaca 180  
atacacatat gagacgttta ggtaactggt gatgcatgtg atgtttgtac attagatgat 240  
caaaag 246

<210> 2463  
<211> 355  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-049-Q1-E1-F5  
<400> 2463

gaccacagc gtccaccac gcgtccgcc acgcgtccga tgaaaggat gaaatgcaga 60  
gatctctaga gaaaggcaag aaagaaaaga aaggaagaca cagtaaata ggcgagaaag 120  
cataggaagt gaaacggatt aggaaccggt gtagtctatg cagtaaaaga aagaatgagt 180  
aagaaaaaag ggagtcattc caccagggga gtaaaggcgc aagaaagaaa cccaaagcaa 240  
ttgacgggaa tcggaaaaag ggggtggatca cgtacattaa tccgatataa accgagaacc 300  
ttacctctcc aagaaggtgt tgcacggctg tcgaaagaac gtgctgtgaa gtgag 355

<210> 2464  
<211> 315  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-049-Q1-E1-F9  
<400> 2464

accatgcgtc cggctctcgt tttatgcgag aatttcgttc ggatgatgcg atcacgaaat 60  
agatgcgttc gactattgat ggtcgcaacc actttgtgat atctgcgggt agacgttccg 120  
atcctctat gcggaattca taagacgaac gtgtggaaga atagttgcac tttgctaacg 180  
gaaagtttgt aatcactcg gttcgcatta ccacggaaca taatgaagtt gtgttgcta 240  
agataatctc ttggtatagt gatgacgttc ctaggactgt gcattccttg ttgcgttggg 300  
ttatactaca attgt 315

<210> 2465  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-G11  
  
 <400> 2465  
  
 aggtgagggtg ggaagcaaga agagatgagt agaggaagta gtgccggtta tgatcgacat 60  
 attactatatt tctctccaga gggacgacta tatcaagtag aatatgcctt taaggctgta 120  
 aagtcagtag gaattaccac cgttgctgta aaggggctgg atgcagtttg tggagtaact 180  
 caaaagaagg ttccagataa gctcattgac cctaaatcag tcaccaatgt tttccgaata 240  
 tcggatcacc acggctgtat tttcactgga cttgcaacgg acgcaagggc acaactacaa 300  
 cgaacacgat cggaagcagc agatttcaag tttaagtttg gatacgaaat cccggttgac 360  
 cagatagcga aaagattggc ggacatcaat caagtttata cgcaacacgc atata 415

<210> 2466  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-G4  
  
 <400> 2466  
  
 ggccgacgac gcgtccacaa cagatttata cgtttcttgt atgaacgggt cacaactatt 60  
 tcgtcctgaa ataacagcag actgcatttc cgaaatggac aagtgtgtgt cattgagagg 120  
 aatcggttca agtcagttac tttttggaga gcttcttgcg gaagaaggag agacatatcg 180  
 tttcactgta ttttattctt gtgaaaaggc aagaagtga ggaattattc atccaaaact 240  
 tgtcttaaac tttccacctt ttcaacctgt aaagcttgaa tggaggaagg actgcggtgg 300  
 aatgctggcg tcctctatat ccgtaggaac tacatggcat ggaagtgata ttatcaacca 360  
 ag 362

<210> 2467  
 <211> 339  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-049-Q1-E1-G5

<400> 2467

acaactggct cctgtttaca gtccatcgat acaaaaagtc aagtatgtgc tttgctctgg 60  
aatagacatg ataaggagat cgtcagcagt catggggtttt cacagaatca gcttatcgta 120  
tggaatatc cttcgatggg aaaaattgca gagttaactg gacacacttc gagagtttta 180  
catttggtg caagtcctga tgggtcaaaca gttgtttctg gcgctgggtga tgagacatta 240  
aggttttgga gaatattcga ggcagcagaa tcgaagctgg attcttccag taagacatgg 300  
agaagttcgc aaaagagtat gatgaagaca tgtaacatc 339

<210> 2468

<211> 358

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-G8

<400> 2468

cgggcccacc caagcgtcca gaaaaatggt tgtcaacctc catatcattc cataccgtta 60  
tttagatccg tttgcttgta tgcagtggca ttagaaacca actttatcgt ggatgaacaa 120  
gttttgagga actgtataga ctatttgtgg aatgataatg actgtgttgg aaaggaggaa 180  
ataggagata tttcgaagaa tacatatcgt cttcccattg cttggacgat tgctcaacgg 240  
ttaggaatat cgctccattc atttcatttc attgttagtg tttatcctgc aaaaatattt 300  
ggactacatt gcaaaggaaa actggaaaaga ggttatgatg cagatatagt cgtttgga 358

<210> 2469

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-049-Q1-E1-H11

<400> 2469

agaatcacac atcatgacca acagcaacgt cgcctttgta accctcttgt ctccaaacac 60  
tcctagaaat aagcttttgt tagggaaaag acaacattca tgtaaacatc cgagtcacaa 120  
tagttatata aagtatcaag atgctgcttt caagtgttcc cactgcaag caaaggaaga 180  
tggccaaaag ggaggtggaa agttcaatcc ttttgccgga cttggaaatg ttgggaactt 240

tatggacgcc gtgaagaaag cacaggagtt ttcaaaggaa gctggaaaga tgcaggaaga 300  
 gttatcaaag acagagctga aagcttctgt aagtatttga acaaatacat gtttctttga 360  
 ctttggaac tagtcagagg acggtttggc ccacgcataat ataac 405

<210> 2470  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-H2  
 <400> 2470

ggccgacgac gcgccagtg tgcatttct atggcttttg ctttgctgg tctagcgagt 60  
 ctttcaagtc gtttgagtac ttggaacag gggtacaaga ttgtaactgt tgcaaataat 120  
 tttgaacgag aaagaggact gcgactgggt agttccttcc aaagtgcgcg gcagtggact 180  
 tcgttgcaag gtttgttatg tcgctataga agtgacagcg ttgtggaggg agggaaaaag 240  
 caaaaggag tcgctactga aagaagtcct gtttctacag ccattcccat gggttatgcc 300  
 gatgaatttt ccatcacgtg catcggtggc gtccaggaga tccaagtaaa cgaacggt 358

<210> 2471  
 <211> 335  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-H4  
 <400> 2471

ggacaatgaa catcagattg ttggtgaatt ggataagatt gctcctaata tgcttgctgg 60  
 tgataagtta caaagtgtca aagcgcaat agaggaagtc gtacagaaat atgaggcaac 120  
 aagacaagag gcaatggaag caacgcgaag gttccaaaag attcgtgacg agcgaaggaa 180  
 gcgttttctt tcatgtttca atgtagtttc ttccaatatt gatagagttt acaaagaact 240  
 tactcgaaat tcagtctcgc agttgggtgg cactgcttat ttggcactag aaaactacga 300  
 agaaccttat ttatatggaa ttaagtatca cgcta 335

<210> 2472  
 <211> 376

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-049-Q1-E1-H9  
 <400> 2472  
 actgagtgcc agtcagtcct tgtcgtcttc cttgggtcca cagttgaacg cagacgttcc 60  
 tgatacttgt aaagagtgtg gaagtgaacg cttgggtgaa gaccacgccc aaggagacgt 120  
 catatgtaga aactgtgggtt tggtagctgc ggaaagaatt gtagacttgg gttcggagtg 180  
 gagaaacttt gaaaacgatg acagcgggtac agaccctagt cgtgttggag ggccgagcaa 240  
 cccctcctt gagtcgggtc caagtaccgt gattggagga gtagtatcgg actctaaaag 300  
 tttgaacgca cgtttaaata gggctcagaa tagacacagt acttcaaaaa gtgaccgagt 360  
 tttgttgat gcgttt 376

<210> 2473  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-A3  
 <400> 2473  
 tctttgtgct tggacaatgg ttgcaaagac tgctctgagt tgcctctttc tctctttcct 60  
 tatcgctgcc gcagttgcag ccgacgtagt ttcagaggcg agatggggat atgctcagca 120  
 aaccaacaa cagcaacagt gccaacaagt atgtcaacag tatgcatact atcagagtcc 180  
 agtctgcaca tccgtaacca cacagagccc atactgggac caatgctcga agactgtgca 240  
 aacctttgtc ccaag 255

<210> 2474  
 <211> 307  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-A7  
 <400> 2474  
 acgcgtccgg gtgtcacctg ggtctattgt gtgcattgag tgtaccggtt ccatgcaatt 60  
 aatgaatcac ctcacatgct gtattatcta atctataccg gtagaatcc tatgctaact 120

agatttatat tgacgtgata ctagtgcac agcttagaga tatatttgct atggcgagaga 180  
 gcatcagttg ctccattggt aatcatatat gtgaacgtat tacgagtga cttcgtagac 240  
 ttgccgctta atctaggcag attcctttca cttctcgtgt cgtacagact gctgtacgtc 300  
 tgttgct 307

<210> 2475  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-050-Q1-E1-B11

<400> 2475

agtagagatt ggttttcttt tcgtccacgc ttcgttccgt tactttttgt cgtgacaagt 60  
 tataatataa aatggccaaa gtaaaccctg tgcgtcggc tcctaaacta agtgtaacta 120  
 gagagatagc tatcgggtatt gggcttggt tagcggtaag ttttcacgcc agggctttgt 180  
 agagagagag ggagagagag agagggggcg cacagtagcc aactgcaaag aagagaggcg 240  
 tggaatattt tgtggaatac atggacctaa ctttggtttc tagtgtgcta tgggtatttcg 300  
 ccagtggcat ctcggataca cggaaatgat aagaaaatat tatcgcgagt tggatgaaca 360  
 agaacagagt tcctcgtcgt cgtgaaaacc gccttggtgt tgtgagatag caat 414

<210> 2476  
 <211> 217  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-050-Q1-E1-B3

<400> 2476

tccggaagac acagtaaatg aggcgagaaa tcataggaat tgaaacggat taggaacccg 60  
 tgtagtctat gcagtaaaat aaagaatgag tacgaaaaac gggagtcatt ccaccagggg 120  
 agtataggcg caagaaagaa acccaaagca attgacggga atcggcaaaa ggagtggatc 180  
 acgtcaatta atcagattaa accgagaagc ttacctc 217

<210> 2477  
 <211> 369

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-C1  
 <400> 2477  
 atggcacaga atgctgcccc taatacgcgtg aaaagtaatc aaatacgact aagatatttg 60  
 cgcaacttga ttctgggttc taacttttcc tacgttggtg tgcgaatttt ccttgcaagg 120  
 catagtttta ctggtgcaca atttcgttta tgggtgattt ctcttaccct cgttgcttgt 180  
 agttatttct tcttacaaga cgccgcaaaa ccaacttttg agagaggagt cctgggtgat 240  
 ggaggctacg acatctccag caaggggttg gatggaatat tgtcacgaga tgatttagat 300  
 ctgttggttt acagtcgtct gtgccatttt ttccaacaag ttttgggtca cgttggttgc 360  
 gataccaac 369

<210> 2478  
 <211> 351  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-C11  
 <400> 2478  
 cggtcgaccc acacgtccac ccacgcgtcc gccacgcgt ccgatttac gaagtgcaca 60  
 gtgcctacta tcaaaccttt ttgactgttt ctggcaagtc agctaatacg tcttccgggt 120  
 tggataagaa aacgtgggat gccatacgta gtgaagtaga gatgcaagtt ggtagtctg 180  
 ttgtagatgt gttttttcgt gtgcaagtaa aggttttttt gtttgcgtgt cgaaaaaaaa 240  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaga aaaaaaaaaa aaaaaaaaaa aaaaaaagg 300  
 gaagaagaac aagagggata agagaaaaga taagggtgta tgaaaagtaa a 351

<210> 2479  
 <211> 281  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-C3  
 <400> 2479  
 ttcagatatg agacgtgtca agagaccaa cttttctgtg cggtttacaa aaaataagtt 60

tcgtgaagaa aacccaaga acgcctaata ttagtagaaa ccttgactg tttcggttc 120  
ctaccgagtc tgaaaatacc ggcaacacaa caaagtcgcc tagcttaca gtgtcgtctc 180  
acgggacgcc ttcgaccctt cataatcccc cggaatcttc gtatcctgag tatttcgtga 240  
aaaataagta ttcactgtat agaacgggac tgggttgaaa a 281

<210> 2480  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-050-Q1-E1-D5  
<400> 2480

cgtccaagcg aaacaagaga agggaagtaa aaggtaagaa agaggaaagg tttacgagag 60  
aaggaagtag aaagaagaga gtgtaaggcg gcgtcataag agaaatccga aaggagtaga 120  
agaaaagaga gagaagaaag aaaagaagag aaaagccgta ctgaagaccg acacaggtac 180  
tcgaggagaa aggagaccca aattaagggtg agagaatgga cgataaggaa ctaggcaaaa 240  
ggatatggta tctgcggtag aacatatgaa agaagcagca ccgactgttt agccaggaca 300  
cagcactctg cagaaaagag aaaatgtaaa gtatagagtg tgccgggctgg caaatagtag 360  
agaagaaatc gatgaaagtg aaa 383

<210> 2481  
<211> 452  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-050-Q1-E1-E10  
<400> 2481

ttcccgggca acgaacaatc acgaagaact ttgagaaaga attgtggtca aaagtactct 60  
ttatggaaaa tgatttttagg aaaacatcga ttacctcgt catgttgctt tttggctgct 120  
tcaagagatg cctcattcgc tgcagctttt actattctac caaccgcggg agaaccgcaa 180  
aagaatactc caacagcttc cggatcccga ataaagtctt ctctctcgaa tatatttgaa 240  
aataattggc tccattgcgg tcttccgata tgatatcgaa tttttgagga gttttctggc 300  
agcgagagtt cattgacaac tctgtgaaca aagatatcta tttgaacatc tacaggactg 360



tcttctgaaa ctattcgttc aaagtctcga aagaaccagt gaaaaccatg aactgttctg 420  
 ttgacccaaa taaagtgaag tgactttgat gg 452

<210> 2482  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-E11  
 <400> 2482

atttttccaa atatcctttg cgaaaacatg tttcgtctac tcacgaaaag tattgcacca 60  
 gttactaaaa gcattttgtt atccacagta aagtataata gtcctttgca gctgagtaaa 120  
 gcagagatat ggagagcttc ctatccaatt ggaagcagac gttcctttgc agaacaaaag 180  
 gcacagcagc agtccaaaga aggtgaagaa ccaataacgc cttatcaacc tgtgacggag 240  
 aagctggata aaagagaccc aaactaacct tggaagtgga gaagttttct tcctgaacat 300  
 agctacaaac ccaacctcaa tatcaatctg gaaaggcatc atacaccttt aaagatttag 360  
 agatagggta gctcggggga atcgtcaagt ttttaagatt ttttgcggat gccttttttc 420  
 agaaacga 428

<210> 2483  
 <211> 290  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-050-Q1-E1-F5  
 <400> 2483

tagagggact ttatgtcgaa taggaggaga aaactcgagt ggtacgtagt ggctgtcttt 60  
 ctagtagttt gttgctcgtg tcgtcaagtg tcgtcctttg atttcatatg cgaagctagt 120  
 tggcaggctg aagacgtttg tttcgaggac gacatagaac aaggaggtgt ctttaagcggc 180  
 aactttgatg tgttggaccc tgaagagtcg gatgtcgatg tagagttgga tcgagtgccg 240  
 cgagaaggag ctccccgagtg tgagtgggag tggagagggg taaggggggt 290

<210> 2484  
 <211> 332

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-A5  
 <400> 2484  
 agcccacgcg tccggttgta tagtaatatt ttaccgtatt tgaaacaaag attggacggt 60  
 atctattgtc atcaaccacc gcttgcagac attagaaatg aaaaccgaaa agatatattg 120  
 gccaatgtta ttatcgatga acaacaatat cgattgtctt tgaccaatac tgccaaattg 180  
 ttatgcattg ctgcttatat ggcttctcat atttcccaa aacgagactc gaagatattt 240  
 acaagaaat cgacgcgtgt caaaaaacat cgcaggagaa ccaactcatc cactctgaca 300  
 gaagccattc cctttcgttt agaaagactg tt 332

<210> 2485  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-A6  
 <400> 2485  
 cccaagcgtc cgtccacgcg tccgcccattg cgtccgcaca cgcgtccgga cccaagatat 60  
 caaaagtttt agattggatg aatgctgatg aaatgttatc gagaggcttt aaagaacata 120  
 tttatgaggt tttccaatat aggccggcac actggcaagt tggcactttt ctccgccact 180  
 atgctgcagg atgtacgaaa aatgacggag aagtttatga gagatccagt tgtgattttg 240  
 gtgcagaaag atgaacttac actggaacgt atcagacaat actatatagc agtggaaagtc 300  
 gacgagtaca agtttgatac tttatgtgac ctctacgaaa ctttgactgt tacgcaggct 360  
 ataacttacg tgaatacacg gacgaaagtt gactggctca cacaggagtt gcgagaacgc 420  
 gact 424

<210> 2486  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-B10  
 <400> 2486

cccacgcgtc cgtctcacc caactagtag aagaatatgt tggcggtttac ttgtctcaca 60  
 gactgtcggtt ggtagagac ttctcgattc tccagatgtg ccaaagccaa taccgtctcg 120  
 ttgcgacgta gttcccagtg ttcacactct tggaggagtg tttcgatgaa ctacagtccc 180  
 tattcgataa ctaccgacaa atcagaagga catattgttc ccggtacttt ttcaagattt 240  
 gagtttcttg aaggctcgagt caccggtcca accgtcttga accctagcat acttgacttt 300  
 acagtgtcca atgtttcaga tgctgccttt ggagaatgga gagcaatata ggcttcaagt 360  
 agagcaaaag aactggaaca cagaagaaac g 391

<210> 2487  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-B4  
 <400> 2487

acgcgtcagc ccacgcgtcc gtttccaact tatgtgcgtg cagcaggaac gactattact 60  
 acttggtttg tgaacgcttt caactttgcg ctttcattct cgtggccttc tatgaaggct 120  
 gcatggggac ctcaaggagg tttcggattc tatgctgggt tcaactttct tggcatcggt 180  
 atgcagttct tattcttacc tgaaaccaag ggctttacat tggaacaaat gagagtcgtg 240  
 tttgaggagg gtttattcac catcgcagct tatcactgtc gtgctgggtg gagaacactt 300  
 cgtaagcttt tgggacttcc agttccagac actcctcttg tttctcccta ctataacgcc 360  
 tacgtatttg accgcgctta gag 383

<210> 2488  
 <211> 95  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-B5  
 <400> 2488

cccaagcgtc cgaatgggca tagatgtcat ggtaaccaag gaaggtatcg tgcaacacat 60  
 cactcttcaa aagacagcct ccaaagcaa ctttg 95

<210> 2489  
 <211> 363  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-051-Q1-E1-B9  
  
 <400> 2489  
  
 cccacgcgtc cgccacgcg tccgcttttt ttttggtgaa agaacatggc agttggaaaag 60  
 aataaacgcc tttcaaaaaa aggcaaggga gtgaagaaga ggttgacaga tccgtttctt 120  
 agaaaggaat ggtacgacat aaaggcccca gcaatgtttt ctcaacgtca ggttggaaaag 180  
 actttggtta ccaagacaac cggaaccaa attgcttcgg aatcactgaa aggtcgagta 240  
 tacgatgttt gtcttgccga cctgagtagc acaaagacg agagtttggc gtacagaaaa 300  
 attcgtttgc gttgtgagga agtggaaagga agaaactgtt tgaccaactt ttatggaatg 360  
 gac 363

<210> 2490  
 <211> 109  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-051-Q1-E1-D10  
  
 <400> 2490  
  
 acccaccgct caagtcactg gaaagtattg gaatagtaag ttgatacttt gaggcctgct 60  
 tgaaaagtgg aatcatactt gtctaccaag aatgtctctt cgtttcaca 109

<210> 2491  
 <211> 423  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-051-Q1-E1-D3  
  
 <400> 2491  
  
 gtccgtttga atgacagaat taggtagtag taagagacag ccagttgggg ttcaagagtc 60  
 tccaagaaca agtgcagaaa atgagaaaaa ggaagctata gctaacttag ctgtcatggt 120  
 tccaaacttg tcgcgcactg agttatcgaa cgctttggaa gctaatagct attcagttca 180  
 aagaacggtt gactacatac tctcggaaaa gtctctctcc tcaccgccc cggcagcaga 240

agatgcgtcc gaagttgccg ctgcgcatgc tcaggttagag gaagacgaac gtttagctcg 300  
 tgccttgcaa agcgcttatg aacgggaaaa taatgttgaa agacagacca tgtctcgaa 360  
 gagttgggac tcatcagcag cacaaactcc tttgttgaa aagctcaaata tacaaggag 420  
 agc 423

<210> 2492  
 <211> 84  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-D4  
 <400> 2492

acgcgtaagg tcaatttcaa tgattcactt aggtcgtagt aagagacacc cagttggggg 60  
 tcaacactct ccaagaacac gtcc 84

<210> 2493  
 <211> 201  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-D7  
 <400> 2493

cgactcaagc gtacgccac gcgtccgtat gtgtaatatt caagaagagg ctgggggcaa 60  
 ttatgagaag gttggcacat gtaggtgctc taagaggtat gtagtcagct ctagggttg 120  
 gtgtcatgtg tccacagttg tctaccagtg gattagcgag cgctttggaa ggtgatagcg 180  
 attgagttca aagaagggtt c 201

<210> 2494  
 <211> 231  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-E1  
 <400> 2494

cccacgcgtc cgccacgcg tccggattgt tgaagaaata aacaaggaga atgggttttg 60  
 gtaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
 aaaaaaaaaa aaaaaaaaaa agacagcgaa gaaaaagaaa gagaaaggca a 231

<210> 2495  
 <211> 120  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-E11  
 <400> 2495

tggttttctt ggtgcagtcc cgtaaaagta ggggtccca gaagacgtgg ctcaattggt 60  
 tttggacaag gttctatatg cagtagattg gctgtctcat gtgggtcccc tatctgcgaa 120

<210> 2496  
 <211> 211  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-E5  
 <400> 2496

cgaccaagc gtacgagcaa actgtgtttt tggggacctc cttggaatcc aagttgcata 60  
 tttgcttgaa agaagtccaa tgaaagcggt tcgacaggag cccaacatgg ctcgtgagcg 120  
 tttgcagggt agcaattcac gaacggaagt cgatacggac tagcgctcca gtgcacaaca 180  
 acgcagtcgc agcgcttagt tctgccaccc g 211

<210> 2497  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-E7  
 <400> 2497

agccacgcg tccgcccacg cgtccgggaa gcagaagtat tcgtagcaaa gttgggtagc 60  
 tgggcgacag tcatcaaact gttctatcag acagtgaat gctttcctaa tcaagtggga 120  
 aactaccaat tacttgttca gcacgagtga ggataacttg aacaaatcct catatggaat 180  
 gtgacacaac gtatctcaac taagaaacaa tgtgaaatat atccaacaac gtcacttttt 240

attattgaga caaacttgat ggcgggagcac aaaacaacca caaaactatt gcgtctgcat 300  
tctatatacct cgcagttgaa atagaaattc gaagcctatt tggagagtgg ccagtttaag 360  
tcatctgttg aagaaaccct ttctctgtca aaccacaaa agcgcataat atgttgtttt 420  
tt 422

<210> 2498  
<211> 262  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-051-Q1-E1-E9  
<400> 2498

gtcagcacat ttggctggat tccgagagag tgcattggtg cagcaciaac gtttgctgaa 60  
gacaagactt ttacgttttt atccttttca atgtctgcag tggaaagtcg acaggtaaata 120  
gttctaaatg atcctgggtg ctttcgagac acgttttggt ttgaaataac ttatgaagtg 180  
agacaagcgt gacaacacga tagtgagtgg aaagtaattt aggtgagttg tgccagagag 240  
gagagtctgg accaagtttt gg 262

<210> 2499  
<211> 358  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-051-Q1-E1-F1  
<400> 2499

cccacgcgtc cggcgttcca cagtcagag tgttggtgtc tgcgttaata agtcctctct 60  
agagacttca atataaaata acaaacagtt gtaaaaagct attcactttt ctctatgaga 120  
acgagtgtc aagtgtcacg ggggttttgc gcgatagaac gatatacgag agcagacatg 180  
ttatagctgg tctacttggg agcagtttgg agttttacaag agaaaacgagt tgggctctgt 240  
tgtgtcgttt ttcaagttta catacgtgaa tactccaagt attgaacaat aaattgggtt 300  
atttacgaca aacaaaaaaaa aaaaaaaaaat aaaacaaaaa ataaaaaaaa caacacgg 358

<210> 2500  
<211> 377

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-F10  
 <400> 2500  
 gaccacgcgcg tcaggaagcg ctgtacgcaa aaaattgaac aacactacag atagcgatag 60  
 tgcgtctgat atgactggac atatatctga tagtattgtt tatcactcag gaggagatgt 120  
 ctcttctgat caaaattccg tgggttctcg agaagatagt ataccggaga gttaccactc 180  
 aactcgtcgt cgtgattata ttgattggaa tactttgaaa aatcactttc accttccgat 240  
 gaatgaagct tcagccaaac tgggtgtatg tgtgacggta ttgaagaaaa tatgtcgtcg 300  
 tttcgggaata tcgcgatggc cacaccgcaa attgaaatct gtagctagac acattgaaag 360  
 acaagaacga gctttttt 377

<210> 2501  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-F7  
 <400> 2501  
 cccacgcgctc cgcgctcaat atacttctta ctacggcgaa tcctcctcca gctattatta 60  
 ccgagcagct gctcctcaga gatggtatga ggaacaatgc acctcatact gctgggttcc 120  
 agtacagacc tatgaaactt atcaatgttc tcaagagaag aagaaggagt acagctatcc 180  
 ttgtcaaact tatgagcagg tttcaactac ttaccagtgt ggtcagtacg agtcccaaca 240  
 agtttactac caatgccaaa agtataagga ggttactcag caagaatgcc agtacgtcca 300  
 agagtcgtat tgtgtcgagt atgaagaatg tcagcaagtt acccaggaag tttctccttc 360  
 agaaattgtc tactacggtg aatcttcttc tagcagtagt tactactact a 411

<210> 2502  
 <211> 211  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-F8  
 <400> 2502



gacgcacgcg tacgacgtta tgcagttgtc caagctatct taagtgagga agacagagtc 60  
 gtggtcatat acttttgtca ggactttgac ccgacatgta tgttgatgga cgaaacagtt 120  
 tacaacggca gcagaaatga taataatctt tgctgtcgtc tatttggtct atatgctgga 180  
 agtccttgac tttcacgcga tgtaccacct g 211

<210> 2503  
 <211> 343  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-G1  
 <400> 2503

cccacgcgtc cgaaaaatgt tcgtgtctta ctccgtacct gcaagaaact taccggcttt 60  
 ggcacgtaac ttttccaatg tctgtctctc gaggagtggg ctgagagggg gatgtttacg 120  
 aaatgtgaaa gttttcaacc acaaacgacc tgcaagggtg ttatctacga aaatgagagg 180  
 aggcgaccat gaaaggagag aacttagtcg tcctatgcgt acgcttgatt ccgcttttga 240  
 cgaactttta gcttttgccg aggatccctg gtccatgttt cgtctccat ggagtctgtc 300  
 gcccagaagt atggcagtag acacgtggat gcctcgtgtt gac 343

<210> 2504  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-G3  
 <400> 2504

cattatctgc gttgttttgt gatttcttcg tgggtttgcg tctcaagatg tcatttttga 60  
 aacgtatata gtcgactctg ctttccaaca gaaactcagt aactaagacg agtgaggcca 120  
 attcccatat acagcacgtt cgagtttacc gctgggactc tgaaaatcgg agaagaacct 180  
 aaatgtggtc acgtaatcca ttctcccaa gtaatgcagt cccatcgtgt tggacgcctt 240  
 catcaggaca tacaatgaca tcgactctac cttt 274

<210> 2505  
 <211> 367

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-G4  
 <400> 2505  
 acgcgtaagc ggacgcgtgg gcgacgcgt gggcggacgc gtgggcggac gcgtgggcgg 60  
 acgcgtgggt tcgcacatcg ataatccacc caacagaaca acgctggtgg taataagagg 120  
 agcagcagct ggagcacaag gtgatgatcc atcgagcag cagcagcaga ccttgccggg 180  
 gtcgttttgt accacgacag acgacctgtg gtttgtttgt aacaacaact tgggtgtcatg 240  
 aaaattccaa gtggagtaat ggcaagttat tgcctcgtca aagttttatt tccactgggc 300  
 gcgcctatta gaaacgttac aaccatagaa aggttgttgt ggttcctacg aaaacttggt 360  
 gggccaa 367

<210> 2506  
 <211> 263  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-G5  
 <400> 2506  
 cggacgcgtg ggatgttaat gttgcagtat acgacagaga agagtgttaag ggtagaggaa 60  
 atgaatatcc tggaaggaga atggtaatgt atggactaat aggagtaatg ataataatga 120  
 cgttaagagg gaagggagta ctgggagtag atgtacgaac gtcattggtta gggataagta 180  
 gtgtaataat aatgggaata atgggaatga tacatgttgt aagtacgtca tacacaaaca 240  
 tggagtccat ggaaagggtt acc 263

<210> 2507  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E1-G7  
 <400> 2507  
 agattgtcat catgaaagct gccgtctttg cattctttgt cttagcacta tgcgccgttg 60  
 ctattcaagc ttctcctcta gaggaactt tgggtgcctt tatgcggggg gggttatcaat 120

cgcaaagcca agcaccaaaa cctagctggt gcaagttgag ctgtcaatat acccaaattt 180  
gtgaacaagt tatccagact cagcaagtta tccagactca gcaagttatc caaactcagc 240  
aggatcatcca aactcagcaa gttttacaaa cacaacaagt gcagcaaaca caacaagttt 300  
cgtcagcata cggacgcaat gaggtatcca gagggggata tgcccaacag tctgtaacct 360  
cagctcctgc aacttcccgt ggtccacggt tcaagtcaag tgctgtaatt agtgctcatc 420

<210> 2508

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E1-H1

<400> 2508

cccacgcgtc cgacaaagtg tcgtttacaa aagaaagtat cacatattcc ctctgtattgt 60  
gtgaggatga gttgggttgc aactttaaaa tcttccaaaa tagaaggctc ctctgtattt 120  
ccagaagggtg aacagcctga cctccatata aagtgggagc agtggtttaca agagaaaggg 180  
tcaccagagt gccaacagtg tcaaggttca ggacaaatac catgtcctgc atgtgaagga 240  
aaggggttatt tcgtgatgga agttttcaat gttacctcta gtaaccagtg tcaagtttgc 300  
cgtggacacc gtaaaactcc ttgcccact tgtaaagaat acatttatcg ggcagtaaaa 360  
gaattatgat ataaagtaaa gctcaatctt tagaaatgga aatattgcct ccagtaac 418

<210> 2509

<211> 369

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E1-H10

<400> 2509

gaggcacgcg tcaggtcctg atgtcgcgct cttcgggtaca aggtaaaaag gaagagggag 60  
ttgccaatgg gacaagggtt ggtacagcct ttggggacgg acttttgcct caaagtcact 120  
ctgtagactt gtcgtctcag ttgggcaccg cagcggaaag tgaatttgct gtcgacaatg 180  
caaacgatac tgagaaccat caagtgggag atagcaccat tgaactgaat tccaataccg 240  
aagtgggttca cgaccaagta gaagcgactc attcgacaag tggaggcgca gcacttcgag 300

atattgtgct gggaatgtca gatggcctca cagttccttt tgcactagca gctggaatgg 360  
ctggtgcct 369

<210> 2510  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-051-Q1-E1-H12  
  
<400> 2510

acgcctgcag gtagcggttc gggggtcgag ggacgagtc ggctgttctg tatggacctc 60  
gataaggaga ctatcgaacg catatccaag ctgtccccgg aagaaagaaa ccaagtggaa 120  
gaacgtgtga agaacgagat gttgagacaa gtttttcaag agctcgttca gactatatct 180  
gaaaagtgtt tcctcaagtg catcacgaag cctggaagtt ctttgacatc aggtgaacaa 240  
acttgtcttg caaagtgtat ggatcgctat ttagatgcaa tgggaatcgt ttccaagacg 300  
ttaatagaga gaagttcacg taactctaac tagtttgtgt ttgatccgag gatttttgac 360  
ctgttagaaa ttgcagcgtc ctgaagctag gatagtggaa caagaactag t 411

<210> 2511  
<211> 290  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-051-Q1-E1-H4  
  
<400> 2511

acgcgtcagc ggaaacgtgg gcggacgcgt gggaagaggc aaatacggga aagcagtaaa 60  
agaagaaaga gaaaggaaaa aactgagtat caggaagaaa agaggaggta gatgaggaaa 120  
gaaagatcaa ggaagtaaga gtaagagaag gagtaatgtg aatgaaagca ggaaagtatt 180  
tgaagaagag agtgtaaagc gcgtaccttt tgcataatgt cccagcgagt gaaagaggaa 240  
gcaaaaagaa agaaaaagaa gtagccaggt aagacccgaa gctagttgat 290

<210> 2512  
<211> 336  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E1-H7

<400> 2512

cccacacgtc cgctcacgcg tcagactcga ccaaagttgc aaacacattc gtttccagat 60  
actcttatat ggctcggaag tgtctgaaac ttcagctctc ctatatgtat acccactgga 120  
aaaacattta gcttccttga tggacatagg tatagagtac cagattgctt caagtgggtgg 180  
cagaatggta acgacgatgg atcgatatga aggatattgt gcaaacgtac aaagaggctg 240  
gcttgctcat gtgctatctg acacagaatc tatcacgaca ttttcaagtg cttctgatgc 300  
tattcagatc ttccgtaagg aacataatgg agttat 336

<210> 2513

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E1-H8

<400> 2513

cccacgcgtc cgcccacgcg tccgcccacg cgtccgccc cgcgtccggg cgctgggtgg 60  
tggtttgggc tattgtgtcc ctcaactacg ggtttggttt tctgttgtgg tgaagacttt 120  
gttttagcaac ttgtgtgcaa aaaatgggtca acttggttga tactgatgag ggacgaaacc 180  
tgttaaaggg ctaccaactc attttatatg ttgctatgtt ggctttctcc gccactat 240  
tggttgcttat ggggaatccc atgtttaatc tctatcta attgccaatgaa tatagacacc 300  
cggatcctag cgaacctttt gtaccattg acaaagtga gaacgt 346

<210> 2514

<211> 301

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-A1

<400> 2514

agcccacgcg tccggttgta tagtaatatt ttaccgtatt tgaaacaaag attggacggt 60  
atctattgtc atcaaccacc gcttgacagc attagaaatg aaaaccgaaa agatatattg 120  
gccaatgtta ttatcgatga acaacaatat cgattgtctt tgaccaatac tgccaaattg 180

ttatgcattg ctgcttatat ggcttctcat atttcccaa aacgagactc gaagatattt 240  
 acaaagaaat cgacgcgtgt caaaaaacat cgcaggagaa ccaactcatc cactctgaca 300  
 g 301

<210> 2515  
 <211> 338  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-A10  
 <400> 2515

aacaactagc ccaaggatat aaagaaggaa ttcattggag tagaagaata tttcatacaa 60  
 ggaatggaat attggctctc ctgctttatc atagagataa agtggttgtt caaaaagtcg 120  
 ttggatattt attagtattg ttgatatgtt tggagtgtat tcggttgcat agtagttggc 180  
 tgaatgagtt ggcaagtcgc ttattttatc ccattatgag aaagaacgag actagacggt 240  
 tcagtggaat gggttattat cttgcgggag tcctgtatgc ttctgttat tttgactcgg 300  
 ttgtttttga tttggttgtt attcatttgg ctattgggt 338

<210> 2516  
 <211> 333  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-A11  
 <400> 2516

ggtcaggagt tcccggcacg actaagccga agcgtcggcc caagcgtctg gtctcattgt 60  
 agtcgtaatt gaggaatacg cagggcgaca gtaacgaggg gaatggttat aagacagtat 120  
 gtgataccga gtcgtgtatc gcagctcgtc ggcgagtttc aagagcgcaa ggctggatgc 180  
 aactttacat agaacaccgg gaagtacgac cgatacatct gacatctatt tacctgtatg 240  
 tgtecttcat cggtcattat gcctttattg aaggttgtcc ttgggcggca agaaacaagg 300  
 ctagtcattc cagtagaacg ttttatgacc ttg 333

<210> 2517  
 <211> 378

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-A2  
 <400> 2517  
 gcgtcagccc aagcgtccgg ttgtatagta atattttacc gtatttgaaa caaagattgg 60  
 acggtatcta ttgtcatcaa ccaccgcttg cagacattag aaatgaaaac cgaaaagata 120  
 tattggccaa tggtattatc gatgaacaac aatategatt gtctttgacc aatactgcca 180  
 aattgttatg cattgctgct tatatggctt ctcatatttc cccaaaacga gactcgaaga 240  
 tatttataaa gaaatcgacg cgtgtcaaaa aacatcgag gagaaccaac tcatccactc 300  
 tgacagaagc cattcccttt cgttttagaaa gactgttggc tagttatcgc gtcattcaac 360  
 aacaactggg ccaatcat 378

<210> 2518  
 <211> 110  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-A4  
 <400> 2518  
 agccacacgt ctgacaatga gttaggacac gagtgtgagt gacgtctaga gcaggaagta 60  
 ttoccttcac acttttcgta ctaactgtct tttggatatag tttcttgtgt 110

<210> 2519  
 <211> 245  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-A5  
 <400> 2519  
 gcgtcaaccc acaagtccgg ttgtatagta acattcgacc gtagttgtga taaagattga 60  
 gcagtatcta ttgacaacac acaccgcttg cagacacata caaatgtata tatcgggtgac 120  
 ataatggatc cggtaaatat cgaattttta ccatcagctg aatgtctctg tccactactg 180  
 ccaaaatgtt cggcaccgct cctcaaattg ccgccacac caccaccg cgttattcga 240  
 caatg 245

<210> 2520  
<211> 350  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-A7

<400> 2520

agcccaagcg tccgtccacg cgtctgcgca tgcgtccgcc cacgcgtccg gttacaatat 60  
atcaaaagtt ttagattgga tgaatgctga tgaaatgtta tcgagaggct ttaatgaaca 120  
tatttatgag gttttccaat ataggcctgc acactgtcaa attggcactt ttctccgcca 180  
ttatgccgca agatgtacta aaaatgacgg agaagtttat gagagatcca gttgtgattt 240  
tggtgcagaa agatcaactt acactggaac gtatcaaaca atactatata ccactggata 300  
tcgacgagta caagtttgat actttacgtg acctctacta aactttgact 350

<210> 2521  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-A9

<400> 2521

agcggacgcc gtgggcgcgg acatagaatg gcaacagata aagtcagcta agaagatata 60  
ctcttatgta aaagaatcaa aaactaaaga atatttggag ctagacgatt cgttgcagca 120  
gccagtggat tcattctgta gcaccaagtg gctgtttatt gcaacccac tgttgaagt 180  
tgcttgact gatgggcagc gaattgaaat gattcctttg aagaaagata taaaggaatt 240  
gtttttctct actttaaga agaactttga gtcgaacgaa gcgtcatggg agtgcagtgt 300  
agttgaaacc gcagttgctg tttttatcca gtattatgaa cagtgtgtgg aacagtacta 360  
tctagcaagc atagattatg agctacctgg ttat 394

<210> 2522  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-B11



<400> 2522

cggcacgcat cagcccacgc gtccgcccac gcgtccgttc cgattccggc aaatgaggag 60

cctttttccaa actacgcata gtatggatag acgatacgag agaggggatgg gtatcgagtt 120

ggggatcgta ctacatggca aatgtgtgtg gagtaatgat ttatcacgat agacactgtc 180

ttcactaacg ctagaacagg agaaacgaga gaacaacagc tacactaatt actttttccgg 240

tctctacact ttattcctgg tgaacgaaaa aatgcaaggg acatgaccgc agacagctac 300

ttggggttgta tccccccaga ataaacactt cctaaactcc catatgtcac caatacacgt 360

gtaaagattt tactggcatt 380

<210> 2523

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-B12

<400> 2523

cgcgctcagcc caagcggtccg cccaagcgtc cggaagtaaa tagacgtttg aaatgcgtct 60

agtatgaaaa gagacacgag tgtaacactg tccaatcctc caactcagcg aaacagcagg 120

aactgtgaaa atgcagttaa ctagcagtat gacggacaga ccccaaaagt cttgactaga 180

taggttcacg gaggagagag aatcatgaag tacaggaggt ggggtaagac atgaacgacc 240

actgcatgag gataacgaat ctgactgagt aaggaaccta agcttaagct agtttggtcg 300

gggaagttta cctaataaag agtaacttag gcaagcatag gcatgagaga agtataatag 360

cacacgcatg catgaagata aagagtgaga tttcagaaa 399

<210> 2524

<211> 368

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-B4

<400> 2524

cccaagcgtc cgtttccaac ttatgtgcgt gcagcaggaa cgactattac tacttggttt 60

gtgaacgctt tcaactttgc gctttcattc tcgtggcctt ctatgaaggc tgcattgggga 120

cctcaaggag gtttcggatt ctatgctggt ttcaactttc ttggcatcgt tatgcagttc 180  
 ttattcttac ctgaaaccaa gggctttaca ttggaacaaa tgagagtcgt gtttgaggag 240  
 gggtttattca ccacgcgagc ttatcactgt cgtgctgggt ggagaacact tcgtaagctt 300  
 ttgggacttc cagttccaga cactcctctt gtttctccct atgataaggc ctacgctatt 360  
 gaccgcgc 368

<210> 2525  
 <211> 312  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-B7  
 <400> 2525

aacacaacta ttctttatct tcgcaaact tgtgccttca ctcgaaaaat gtgtcttcct 60  
 ttgcaaaaat cggcatactt ttgcgtcgat aataatgcgc aaacgaaaga ctacgaggca 120  
 gagctaaaac aggggcacca acagtcagtg atggacaaac ctcaagtga tcaatccacg 180  
 ttggtaaaga tagacttgct tcaaggcagc tttaaagtag tctaagactg tgacacagat 240  
 ttagaagtgt gattataagg ccaagtttca attggaactt atgcagtacg ggctctgttc 300  
 acctggctgt tg 312

<210> 2526  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-B9  
 <400> 2526

gcgtcagccc aaacgtccgc ccacgcgtcc gctttttttt tgggtgaaaga acatggcagt 60  
 tggaaagaat aaacgccttt caaaaaagg caaggagtg aagaagaggt tgacagatcc 120  
 gtttcttaga aaggaatggt acgacataaa ggccccagca atgttttctc aacgtcaggt 180  
 tggaaagact ttggttacca agacaaccgg aaccaaatt gcttcggaat cactgaaagg 240  
 tcgagtatac gatgtttgtc ttgccgacct gagtagcaac aaagacgaga gtttggcgta 300  
 cagaaaaatt cgtttgcgtt gtgaggaagt ggaaggaaga aactgtttga ccaactttta 360

tggaatggac ttgcccagag acaagctttg tgggctc

397

<210> 2527

<211> 161

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-C10

<400> 2527

ctgtctgcag atatccaaat gtctatcaat actatgacgt tcaacattgg cagcatccgt 60

tgcaagtgcc acgtacgcaa tccatcagag tggtaggaac tatacctcta tagtgagggt 120

gaatgaacag cataatctct aagacataat cttgcggaat c 161

<210> 2528

<211> 149

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-C11

<400> 2528

ccttttctac actttcatag ttaatttaac actcatttct atacaacctg tacgttttgt 60

atatatgagt ggtgggtcct cattgttact catagctgag tcgggatatc tttataaatc 120

caaaattttt cttctcgttt atcaaaaat 149

<210> 2529

<211> 172

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-C6

<400> 2529

accacacgt caaggagagt agcttggtat gcagcgatgg ataagttcta acagccgctg 60

gttttggtgc agaccgtgcy ttaggataca tgcctgacta ctcaagtacg tgattccgga 120

tgacttccca actgtgctgt aattgctggct aggggtcgat cgttgaaaac gc 172

<210> 2530

<211> 373

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-051-Q1-E2-C9  
  
 <400> 2530  
  
 cgcgctcagct ggagactaga cctagtctgt tgtcgcaatg aaactcactc tgtatactct 60  
 gtgtgtattg tctactgtaa ttctgatcat gagagctcaa cctatgatac ctcgtagctgg 120  
 tcttccttta aacgactgga ttcaagaggt agaggaatgg attccaagat aatttccatg 180  
 atctgtccaa ggaaatthttg acactattat tcgaggattc actgcattgg gctgtattgt 240  
 atccactgac tcattcatat aagtcgacta ttattactcc ttgattctag attctgcaat 300  
 ttttttgcaa gtaattgtaa ctatgtatga gagggcaaca gatcattagg agatcgatag 360  
 acttgatact att 373

<210> 2531  
 <211> 138  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-051-Q1-E2-D1  
  
 <400> 2531  
  
 gcgctcagccc aagcgctccga agaggtgtat gatgcaggca aagaagtgac gcagtagatc 60  
 agagagtaac acatgcaagt aggtaaagcg aacgggtgag taaagaggtg tgaaagactg 120  
 gaagaacatg agagcagc 138

<210> 2532  
 <211> 94  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-051-Q1-E2-D10  
  
 <400> 2532  
  
 caccgctcag gtcaatggaa agtattggaa tagtcacttg atacgttgag gtttgcttga 60  
 acagtagagt cctacttgta tacttcgaaa gttt 94

<210> 2533  
 <211> 154

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-D11  
 <400> 2533  
 atttcgtggg attccccaga gactacaaat atgtatccac acatttgcta ttaacaagac 60  
 ttttacgttt ttatcccttt caatgtctgc aatggaactc tgggacctac atgttctaaa 120  
 taaccctggt ggcgttcgac accccttttg tttt 154

<210> 2534  
 <211> 317  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-D12  
 <400> 2534  
 acgcgtcagc ccacagcgtc cgcccacgcg tccgcccacg cgtccgcca cgcgcccgcc 60  
 cacgcgtccg cccacgcgtc cgcccacgcg tccgcccacg cgtccgcttg catttggtga 120  
 aaagacaaag aacttggtta ttctcagatt cggtttagta ggtatgctga tcggaactta 180  
 tgtttccatt atggaaaatgc agaaaaatcc ggagtattga attgatatgg cattgttctc 240  
 ctcttttctt tgttgtacaa gtttacaaca aaaagcccgg ctttgggttt tatacttttc 300  
 atgtaaattt tccttttc 317

<210> 2535  
 <211> 306  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-D4  
 <400> 2535  
 acgcgtcagg acagaaacgt ttgatattcc aagttgtcac agcaaagatg aatttgagtg 60  
 aagaagtgga cttagaagac tacgtttcca gaccggataa aatttctggt gcagatattg 120  
 ctgcaatctg ccaagaagcg ggaatgcaag ctgtacggaa gaatcggtat attatacttc 180  
 caaaagactt tgaaaaggca tataaaattg tcgtacgtaa agatgagcag gaatttgctt 240  
 tttacaaata agacatgatt tgtcgaataa agaatgaatg gatgcacaag ttgcactttg 300

caactt 306

<210> 2536  
<211> 62  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-051-Q1-E2-E1  
  
<400> 2536

cccacacgtc cgccacgcg tccggattgt tgaagaaata aacaaggaga atgggttttg 60  
gt 62

<210> 2537  
<211> 328  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-051-Q1-E2-E11  
  
<400> 2537

caatgcatac agtctgttag gtaactgaga accagagcaa atttgtcaaa tttgagaata 60  
atgctaatac agtttttgaa gtagacacaa gcattatagg cctgggctta aacaatatag 120  
ttcctcttgg aggacgggga cgatacagac agcaatccct tgcctaattgt ggaaggacga 180  
attcttgcaa acgttatcga gtattgtaga tatcactcac tcttaaagac cattccgcac 240  
tctgaggagg atattgagcg ctgggatacg gaattcccaa atgtagatca ttttattcct 300  
ttctcatttg aatctggctg caaactat 328

<210> 2538  
<211> 287  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-051-Q1-E2-E3  
  
<400> 2538

cgcgctccact acaggcaatt tccatctttt tcgctcattc attcttacat ttcagtagat 60  
gtacaatagt tttttcattg tcaaaaaata ttgcacaatc caccatcga accacgaaaa 120  
agaaagcctt tcgactcttt ctttctacac ggtttgcac aagaagaatt agatacatag 180

aatcatcggc aacggattgg atgctgggtt agaggcggtc aaccatagtc cagcaaaggt 240  
 agcgtcgtag catggcctaa cggccatgta ggagagcaga ggtttga 287

<210> 2539  
 <211> 306  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-E5  
 <400> 2539

accacacgt cagaccacgc gtccgcgcag cgaatccatg ttgaaagagg gtacacgtat 60  
 attgtcagat catcaagttt caggtgcttc aagatggaaa acctcaggtg ataacttcgg 120  
 atgaagtatt cggaggaaag agagtagtat tgtgtgggtt acctgggtgcc ttactccaa 180  
 cctgctctag gcagcacctt ccaggctttg gacagaatgt tgatgaaatc aaatcgaaag 240  
 gagtagatac agtcgcttgt tgagctgtca gcgacgcgtt tgtgttacat cagtgggcag 300  
 agtcac 306

<210> 2540  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-E8  
 <400> 2540

gaccacacg tcagcccacg cgtccgcca cgcgtccggg aagcagaagt attcgtagca 60  
 aagttgggta gctgggcgac agtcatcaaa ctgttctatc agacagtga atgctttcct 120  
 aatcaagtgg gaaactacca attacttggt cagcacgagt gaggataact tgaacaaatc 180  
 ctcatatgga atgtgacaca acgtatctca actaagaaac aatgtgaaat atatccaaca 240  
 acgtcacttt ttactattga gacaaacttg atggcggagc acaaaacaac cacaaaacta 300  
 ttgcgtctgc attctacatc ctgcagttg agatagaaat tccaagccta tctggacagt 360  
 ggccagttga agtcatctgt tgaaagaaac cgtttctctg tcaaaccac agacgcgc 419

<210> 2541  
 <211> 286

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-E9  
 <400> 2541  
 ttcccgacaga aaattcgatg ctccgacaag ccttgatcg ttttcggtcg atcatgagtt 60  
 tatctggtgc agtgacaatg acgagtgtct gtgatccaga gtctcaagaa tattcatggt 120  
 cgggattgca acacatgata aagcggcggc agatgtaagg tgaggatatt atcactccga 180  
 aaaggcaaga tgagtgagtc actgaggtgt gatgagtccg aaacaaaagt tcgagagcag 240  
 tgttgacgaca aatacatcta ctccatcat acgctgtgtt cttttt 286

<210> 2542  
 <211> 62  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-F12  
 <400> 2542  
 acgcgtcagc ggaagcgtgg gcggacgcgt gggaaaaaaaa caaaaatcac gatgaccgtt 60  
 ac 62

<210> 2543  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-F6  
 <400> 2543  
 agcggcattc gacgacgcct tcgagctgga gcagcgttga gtaatttctg aaacacaaat 60  
 atgcgtgcc aagtggaaaa gaagagaaca cgacggttga agcgcaagag aagaaagatg 120  
 agacagcgtt ccaagtaacg gaagaatcct cggacgtctg agttgaatag agttcctaaa 180  
 acgtgggaaa actctatttg caactctggc gcagtgatta tctctgcta cggaagggtg 240  
 gaagtgtttc cgaggattgt tcgcaagtta tgataaaagg ttcttggtgt ttttggtttc 300  
 aacttgtaaa tgccacttgt cagtcatttt attcgagtaa ag 342



<210> 2544  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-F7

<400> 2544

agccacgcg tccgcgctca atatacttct tactacggcg aatcatcctc cagctattat 60  
 taccgagcag ctgctcctca gagatgggtat gaggaacaat gcacctcata ctgctggggt 120  
 ccagtacaga cctatgaaac ttatcaatgt tctcaagaga agaagaagga gtacagctat 180  
 ccttggtcaaa cttatgagca gggtttcaact acttaccagt gtgggtcagta cgagtcccaa 240  
 caagtttact accaatgccca aaagtataag gaggttactc agcaagaatg ccagtacgtc 300  
 caagagtcgt attgtgtcga gtatgaagaa tgtcagcaag ttaccagga agtttctcct 360  
 tcaaaaattg tctactacgg tg 382

<210> 2545  
 <211> 313  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-F8

<400> 2545

agaggttatg cagttgacca agctatttca agtgaggaag atacagtcgt ggtcatacac 60  
 tttgggtcaag acgttcatcc gacatgtatg ttgatggact aaacacttta cagcgcagca 120  
 caaatgataa ccttttttgc tgtcctctat tcgggtcgata tacgggaagt atctgacttt 180  
 aactctatgt acgaattgta tgattcttgt actggtatgt tcgtcattcg gaatcaacat 240  
 attatggtag acttgggtac cggtattaag aagttgatca actgggctat gactgacttt 300  
 caggatctta ttg 313

<210> 2546  
 <211> 81  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-F9

<400> 2546

cgaaatatga atagccagat gcgatccatc acacgtaaaa tttatggctt gcagtttaat 60  
 gtagtgtact gacctctttc c 81

<210> 2547  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-G10  
 <400> 2547

acgcgtcagc ggaagcgtgg gcggacgctt ggggaaataa agaaactgca caaaaaaccc 60  
 cgtactttaa ccgtgaaaat gaccaggcat tacaaaaggtt accagcaaaa cttcggcagc 120  
 aaattgagcc atcggaggaa gtactcgccc aacaaagaaa aggcgtggca gaaatcttac 180  
 aaaaacacgg tgtccagcct aatcaaagtt tgattgaaga tattgtccgt ttctttcatt 240  
 aatccctccg tgtttgatgt ttagctgcgg ttcaactaga gttttgtttg ggaacacggt 300  
 ggatccagta aagaacaaaa gaacttcttt gt 332

<210> 2548  
 <211> 250  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-G12  
 <400> 2548

cgcttacgcc ttcgagttgt tcctggatgg atagtccttt caattgttaa tacaaacatt 60  
 tggtttgtgc ttaattgtcc ttgtatctca aattttattt tgttctcact agacaactgt 120  
 tataaatggg ggggccgcgc cccaagggtc tcagcttacg tactcattgt atgcaacgtc 180  
 atagcttcac aattgtgtgt caccttatcg tcacaagttc tgtatgagcc gatcagtttt 240  
 aaaatctcat 250

<210> 2549  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-051-Q1-E2-G2

<400> 2549

acgcgtcagc ccaagcgtcc gaaaaatgtt cgtgtcttac tccgtacctg caagaaactt 60  
accggctttg gcacgtaact tttccaatgt ctgtctctcg aggagtgggc tgagaggggg 120  
atgtttacga aatgtgaaag ttttcaacca gaaacgacct gcaagggttg tatctacgaa 180  
aatgagagga ggcgaccatg aaaggagaga acttagtcgt cctatgcgta cgcttgattc 240  
cgctttcgac gaacttttag cttttgcgca ggatccctgg tccatgtttc gctctccatg 300  
gagtctgtct cccagaagta tggcagtaga cacgtggatg cctcgtgttg acttggtgga 360  
gaaggaagat ggcttttatg catacgtgga actaccagga c 401

<210> 2550

<211> 323

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-G3

<400> 2550

cacgcgtcca cattatctgc gttgtttggt gatttcttcg tgggtttgcg tctcaagatg 60  
tcctttttga aacgtataca gtcgactctg ctttccaaca gagactcagt aacaaagaca 120  
gagtaaggcc aattacgaca tatagcacgt tcgagtttac cgctgggacc ctgaaaaggg 180  
agaagaacct gaattggtta cctactcgat tcctctcaaa gaatgcgggc ctatggtgtt 240  
ggatgcctta ttcaaaatat agaatgaact ggagattact tttgtatgta gaacgtcctg 300  
ccgagacgga atttgtggaa gtt 323

<210> 2551

<211> 101

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-G6

<400> 2551

accacacgt cagcggacgc gtgggatgtt actgttgcac tatacgagag agaacagtgt 60  
aagggtagat gaagtcagta tactggaacg agaatggtac t 101

<210> 2552  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-051-Q1-E2-H1  
  
 <400> 2552  
  
 cacgcgttca cccaagcgtc cgacaaagtg tcgtttacaa aagaaagtat cacatattcc 60  
 ctcgatttgt gtgaggatga gttgggttgc aactttaaaa tcttccaaaa tagaaggctc 120  
 ctctgctatt ccagaagggtg aacagcctga cctccatata aagtgggagc agtgtttaca 180  
 agagaaaggg tcaccagagt gccaacagtg tcaaggttca ggacaaatac catgtcctgc 240  
 atgtgaagga aagggttatt tcgtgatgga agttttcaat gttacctcta gtaaccagtg 300  
 tcaagtttgc cgtggacacc gtaaaactcc ttgcccaact tgtaaagaat acatttatcg 360  
 ggcagtaaaa gatttatgat ataaagtata gctcaatctt taaaaatgga aat 413

<210> 2553  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-051-Q1-E2-H10  
  
 <400> 2553  
  
 catcaggtcc aaatgtcgcg ctcttcggta caaggtaaaa aggaagaggg agttgccaat 60  
 gggacaaggg ttggtacagc ctttggggac ggacttttgc ctcaaagtca ctctgtagac 120  
 ttgtcgtctc agttgggcac cgcagcggaa agtgaatttg tcgtcgacaa tgcacacgat 180  
 actgagaacc atcaagtggg cgatagcacc attgaactga attccaatac cgaagtgggtt 240  
 cacgaccaag tagaagcgac tcattcgaca ggtggaggcg cagcacttcg agataatgtg 300  
 ctgggaatgt cggatggcct cacagttcct tttgcactag cagctggaat ggctgggtgcc 360  
 ttttcaagtt ccaaggttat tgtattggca gtattggcag 400

<210> 2554  
 <211> 187  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-051-Q1-E2-H11

<400> 2554

ttattggaat gctccactta ctgcagatgt ggtatcatcc gataattgga gtcgtcccta 60  
gtctcgtcag cttggcagca tattctgtca aatgggtctcg tgcattcaca ttctggccga 120  
gtgtgagtag aacagacgat gcttactgtg ataagatctt ggtttgtacc tgggtccccta 180  
tggaag 187

<210> 2555

<211> 318

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-H12

<400> 2555

agcccacgcy tccgcgaaat ggtcactcac gcaaggcaaa cctaagacgg cccccggacg 60  
aaagaaaccc aaggggaaaa ccgtgtgaaa aacaaaatgt tacaacaggt ttttcaagag 120  
ctcgtacaca caataccgag aaaggtgttc ccacatgtgc atcaciaacc ccggaaattt 180  
ctttgacatc aggtgaacaa acgtgtcttg caaagtgtag ggatcgctat ttagatgcaa 240  
gggaactcgt tccaaagact ttaatagaga gaatttcacg taactcaaac aattgtgtgt 300  
gagatccgag gatttttg 318

<210> 2556

<211> 367

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-H2

<400> 2556

attgaaaatc atggtagaca ccaagcttaa tgacggtgct agtgctgctc tttggacttg 60  
ccgcctagtt ctctatacaa ttgtgttagc attttcagca acaataattg gacctgatgg 120  
aacgaaagca gataacatat ggaacgatgc cctatattat catggaaaag tgggtgaactt 180  
ttgtgcatat tcagcgtcat cagtatttga aagtggcgac catggcgcat gtcaacatgt 240  
gatggcattg gcttctatca acttgattta agtggttctat cgttggttgg acaccttctg 300  
cgacgcattg tatccaattc ttacagagtt ctgggttctg gagcttggtg tcatgatatt 360

ccttact

367

<210> 2557  
<211> 210  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-051-Q1-E2-H6  
  
<400> 2557

aactgaatat caggatacat gcatggagta catgaggaac gagagatcat cgcagtaaga 60  
ataatacaac gagtaatgtg aattggatca cgaaagtatt tgaagaacac agtgtaaagc 120  
gcgtaacttt tgcgatgatgt cccagccagt gaaagacgaa gcaaagagag agaaaaacaa 180  
gtagccaggt aagacccgaa gctaagtgt 210

<210> 2558  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-051-Q1-E2-H8  
  
<400> 2558

gaccacgcg tcagcccacg cgtccgcca cgcgtccgcc cgcgcgtccg cccacgcgtc 60  
cgggcgctgg tgggttggtt gggctattgt gtccctcact acgaagtttg gttttctgtt 120  
gtggtgaaga ctttgttttag caacttgtgt gcaaaaaatg gtcaacttgt tgtatactga 180  
tgagggacga aacctgttaa agggctacca actcatttta tatgttgcta tgttggtttt 240  
ctccgccact attttggggc ttatggggaa tcccatgttt aatctctatc taattgcaa 300  
atgaatatag acatccgat cctancgaaa cttttgtac ccattgacaa agttgaagaa 360  
cgtcactttt caacaagtcc tctctccttc tgtgctggg gtgtcacagg agatcgtacg 420  
cgtggcatgc aat 433

<210> 2559  
<211> 84  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-051-Q1-E2-H9

<400> 2559

acgcgtcaga aaaaaaaaaa aaattcaaaa aagaaaaaga aaaaaggaaa cagaagcagg 60

acgctcaagg acgatggcac aaaa 84

<210> 2560

<211> 373

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A10

<400> 2560

cccacgcgtc cgcccacgcg tccgatcgtc ttccacgcgg aagtaatatg atcgatcgaa 60

cagcattgcg caatgttgga atgcagtatg taacaaccgc ggatgatatt ggacatcgct 120

tggtcgtaga gatccaacta aaggaatcca gcaaataata tagtcacatg aaggaaggag 180

aacgacaaaa tgcgggttaca gatatcattt ctacggaccc tgaaatggat aggaaagtat 240

ctcagtgggt gtcggaagga caaaaggcat tcttagtaga agatgagttg acgggtgaac 300

gtcgaggaat attcttaagc tcaaccaaat tgaaagttca gaaacaagcc agtcaggaac 360

gaaatagcaa tca 373

<210> 2561

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A12

<400> 2561

cggacgcgtg ggtgggggtt tcatgttgtc ttccaccaga gacgacatct cgacgagtag 60

tactgtgaaa ggtcaagtat gggcagagtc tctgatgaa gaaaccaagc agtgtttgca 120

atctttacgt tccaaagtac aatcgatgga cttgactcca aaagagttgg aatggtgtga 180

cgacgcttgt ctcttgagat atttgcgcgc tagaaataat catgtggaca aggctttgga 240

gttgataaga agaacgttac agtggcgaaa ggaatttgga gttgaagaaa tgatgaacaa 300

cgtacctgct ccagtgaagg aagaagggtgc tagtcaaaag ctgtatgtgg gaagaaagga 360

caaatatggg cgtcctatca tttacatgaa ac

392

<210> 2562

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A3

<400> 2562

ggcacgcgta agatgcaggc ggcccttgat gggatattat gctttggcaa ataccaaaga 60  
gcctttattc gaaagtcgaa caaagcaatt tgacttgctc tcaactacgaa agactttctt 120  
ttgtattggg ccggttggtt taagaagcgg ctagggggga gggttgggag ttggctgtgg 180  
gctgggcttt ggtcgtgggt ttgctttgag ggggctgtgg agtcaacgtg tggggaggac 240  
cggtggtatt cctacgcagt tcttgatggg ttgctttt ggacattacg tttctggggt 300  
tttgagaaac ttagctcgaa aatttcctgg aagttcaaca ggtattggct gtgggttttg 360  
tttgggctat ggcgttgga ttggtctac 389

<210> 2563

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A4

<400> 2563

agaagcatcc aaagcagttc ttacaagact tgaatcttat ctgtgaaaat gcttttcatt 60  
ataatgagaa gaagtcggaa gtttatgagc ttgcacagga gttgaaaaaa cgagtcgaga 120  
acttgatgaa gccagttttg ggagagtggg ctgctattga acaagcaatg actgaggata 180  
gtgaaaaggt gaattatggg ggcgggcgtt cagaaacacg gggaagtga gttatccccg 240  
caccaagtcg taggactaga aagaagacca acactagtaa ccgcgattcg aaatcgtcgg 300  
acaacgtgaa ttcagtaaac gttgaagttc acgagagcaa gtcaccaa at gctgaagatg 360  
ccaaggttgt caatatgtcg acaactgaaa atgat 395

<210> 2564

<211> 199

<212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A5

<400> 2564

cccacgcgtc cggagatddd ggcgcgccatt tctctcaatg gaagcttggc gaggtggtat 60  
gaagagaaaa atttgtagtc ttgcgaggca gcattcctcc aacaaggggtg gaataagagg 120  
caacatgtgg gacagaccac aggagatact gcctgatgat aaaccaatat tttatggaaa 180  
aaaaagaaaa agaggggggg 199

<210> 2565

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A6

<400> 2565

attgaagctg ctgcttcttt atctgaacca tcagtagcca attcgcttcg tcatcgtttg 60  
tcagagctac aacatttgca tgacgatgga aagttacttg gtgatgacta ttagttgaag 120  
cgtgcgcgac ttttgagagg cttctctgtt tctagtctta tgcaaaaagt tcatcattta 180  
ctttcttgta cgggaagcgt gcttttcttt gtgtcgtgcc ttgtccaaat tgggatataa 240  
gacagccatt ttatcttcag gtcttcattt cttggttgaa catgtgaaac gcactttagg 300  
aatggtaagt tatttttgtc tcgagcattt gactttattt aggattttgc atatggaaat 360  
acattcgaaa ccgatgcgat gggcaatttc actggggaaa taagtcag 408

<210> 2566

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-A7

<400> 2566

aagaaaagaa gagaaaagcc gtactgaaga ccgacacagg tactcgagga gaaaggagac 60  
ccaaattaag gtgagagaat ggacgataac gaactaggca aaaggagatg gtatcggcgg 120  
tagaacatat gaaagaggcg gcagggggagt gtttagcaaa aacacagcac tctgcagaaa 180

agagaaaatg tagagtgggg gagtgtgctg cctgccagg agtagagaag aaatcgatga 240  
aagtgaaagc gagtaaaaga tgaggtatag agaatggcgg tcctaacagt aaggatccaa 300  
aggtagcgaa gtaaataagac gtttgaaagg cgtccagtat gaaaggagaa acgagtgtag 360  
cactgtctag tcgtccaact cagcgaaaca gcaataactg tgaaaatgca gtaaactagc 420  
agt 423

<210> 2567  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E1-A8  
<400> 2567

agcaattgag ctagtgaac tgggtggaaga atgactactt tggactacaa tatagcttca 60  
actccgttta cagggccacc ttctacactt cacactggta cagtaaagct ggataatgag 120  
gaaatagagc gttattttatc tcaactgata acagagtctt gcaagcccct tgcggaagag 180  
gatgtcaaaa gactgtgtga taaagcgagg gagcgttgta ttgaagagtc caacgttcaa 240  
cctgttagtt gtccagtaac tgtttgtggt gatattcatg gacagtttca cgacttggtta 300  
gaactcttta aaataggtgg caactgtccg gaaaccaact atcttttctt gggggactat 360  
gtagatagag gatattactc tgtggaagca gtaactgccc ttgtttgttt gaaaa 415

<210> 2568  
<211> 346  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E1-B10  
<400> 2568

cccacgcgtc cgaacttgac atgcaacaaa gtaaccttcg agtagtccaa tcttctttgg 60  
tggcaagctt tgtcctcatt ctaagtataa tctgtgccat tcatgcagta acagccgatg 120  
aaataacaag tttcgagaga ggataccaaa cagttgcacc aactcagacg cagcaatgtc 180  
aaaagatttg tgtcaccgcc acacaaactc aagttcaaag ttgtatttat actcagacac 240  
aggctccgtt caggtcccaa tgtgtcaaag cattgccaac tacctgctat aaataacttaa 300

caaaatataa gcaggtgtgc tgtgagcagg aatacgagca acagaa

346

<210> 2569

<211> 254

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-B11

<400> 2569

cccacgcgtc cgatctagtc aaaacaacaa cagatggcag caaaaaactc gattacttcg 60

gaagttgtag attcctctcc tagtcctatc gttgcaatag caatcgtcaa ctctctgaat 120

cggcctcttt tcaactgaac atatgaacat cctgacttgg tgctgcctag cgctagaaca 180

ggagaaacga gagaacaaca gctacactat ttacttttcc ggtctctaga ctttattcct 240

ggtgaaggaa aaag 254

<210> 2570

<211> 396

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-052-Q1-E1-B12

<400> 2570

cccacgcgtc cggaatattg ttgcaaggcc agggcagcac agatatcaag ttggaagccc 60

gaaacagtta ttgtcgccgc gttctttggt tttactacaa acattataat ggaattgggg 120

caagaaaact ctagagttcc taccctctcc ccacaactgc acctaatttt tgagcgaccc 180

ggagctctca atactggtgg tagagcagcg atggctgcac tggcttctgt tttgtctgga 240

aaaaaccttg tgatacaacc caactggatg gacaacgagg ggtgtaacaa atattgtatg 300

gataaacggg attatatggg atgctgtagt ttggtaacaa tacctgaaga gtggccgttg 360

ttggagtgga acgcggaaaa tattccnoga ctgaat 396

<210> 2571

<211> 345

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-B2

<400> 2571

agcactctat tatattggct atcaaatcgg agtatcgcct ttggcttggg ccatcaacgg 60  
agaaatttat gaattgcacg tgcgcaattg gggaatgtcg tggggtgcag ccattctttt 120  
gggtgcggca ttctcagtga gcgagggatt taccagacaa gtacgagcat ttacgaaaac 180  
tggagtatth ggattgtgag gaggagttag cctcattttc tggggtatcc ttatcatttt 240  
aatgcctgag acaaatggaa gaacgctaga agatattcga aatatattcg atgaacgttt 300  
aattggattg gcaaaatata actggagtca aaccaaaca tggat 345

<210> 2572

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-B3

<400> 2572

gcgaatggga gaattgagca tctttcgtcg tactttagct gaaaatatat cgatgcgac 60  
tggtgaatgc aacagcattt caaatatgga acttgaggtg aagaatgttc ctgcattttg 120  
cagaacagct ggcgattcag ttgagaaggc tgacttgtcc aatgcttgga aactattcta 180  
tgagcattat ttgtcaggag acgcgattta tttgcatgaa ggggaaaact cttatgggcc 240  
tggggttctt attcgtatat ctgatgtcat gcagagtctt tcgattactt gtgagggaga 300  
accatcctcg gaacaaatat caaacctttt acagaaacaa aagacctact tgataggtat 360  
ttcattgaaa tgttttgatg attcatgttg cactgtaagc catgatataa tt 412

<210> 2573

<211> 415

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-052-Q1-E1-B4

<400> 2573

agctatttga tgatcatttg acatttcttc aacacaatga agtgagctcc ttgttgaatg 60  
tggtgtataa gctttctact agtgtggtaa ctattgcata catggaacgt ctccttgtgt 120

tgcaacgtat tgcatactgg ttgttggttg ccagttgtat gatgggtgtg gctttggtat 180  
 ttatgttgat gtttcgacgt tegtgttggg agcgtgatga gttgtattac aaggccaaat 240  
 ctgtttaaag tcaatgttgc tatttgtatt tgaaaatctt tttttctttt tggaatatgc 300  
 tggtagtagg ttgttggttg tgtatcgagt gacatgtatt tegtctttgg acaacacaag 360  
 acatgtgtnt ttgagtagta taatanatat gcaagacggg tcgagacaca cacat 415

<210> 2574  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-B6  
 <400> 2574

caagcgtaga gcagaagaac tgggtgtaaa ggtcgagtag tagagtaagt gtaaaaggga 60  
 aaggaaagga gagaaagagg aaagggatcg aatgcagaga tctcgagaga aaggcaggaa 120  
 agaaaagaaa gtaagagaga gggatgaggc gagaaagcat aggaagtga acggattagg 180  
 aaccctgtga agcggaggcg ggaggagaaa gaatgaggag gaaaaaacgg agtcattcca 240  
 ccaggggagt aaaggcgcaa gaaagaaacc caaagcaatt gacgggaatc ggaaaaaggg 300  
 gtggatcacg taaattaatc cgatataaac cgagaacctt acctctccaa gaaagtgttg 360  
 cacggctgtc gaaagaacgt gctgtgaagt gagagaacgt acgagaaagc caagtga 417

<210> 2575  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-052-Q1-E1-B7  
 <400> 2575

cccacgcgtc cgtttgtggc attgttttga aaaagagagg cccatcctca ccaactactac 60  
 gagagaagaa accatgacta cgcagttaga aagaggagaa gaaggcgttg cacagcagga 120  
 agaagaaaat attccggagg acggcggaga cttggccacc tatgttcaaa acttgttgtc 180  
 tcagatgcag atgggtgttg gaggcgatgg cagacgcgag ggtaggcaga attgacgaga 240  
 tgggtagtcg tatacacgaa ctggagaaga gcatcgatga gttgatggaa cagactggag 300

taaaggaagg cgatggaaca gagtctggtg aggttactac gacaagtcgt ggggagtgaa 360  
 tgcttcggtt gtagtacgtt ggatattcnc cagagtagct cgtacta 407

<210> 2576  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-B8  
 <400> 2576

cccacgcgtc cgcccacgcg tccgcccacg cgtccgggag gtgatttcca ccaagtcaca 60  
 aagaatcgta aaagagaaaa tgacgatagg ttttgtacat ccacttggaa ctagtgttca 120  
 atgtaacaaa cactacaaga ctgctacttg ttcttcccag ttttattcca agtcttcac 180  
 gtttctaggg agaaaccagg cgggttgcaa gtcgtggtct cttgcctatg gaagcaaggt 240  
 ggatcagaac aagtacactt acagtcaccc tagttccgta aaacaaggaa gaggaccaac 300  
 tatggttgct tcgaaaacag agttggaaca acaagtaaga tccagactag tcaagttggt 360  
 tgagcagaca ccttgcacgc ccacatcaggt gagacttgct tggcacgacg ctggaac 417

<210> 2577  
 <211> 366  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-C1  
 <400> 2577

cggctcgagc cacgcgtagg cggacgcgtg ggttgaggag gaagaactgt ggaacttgct 60  
 gttgtctggc agcgccactg ttgttgcgaa gacactcgtc gtcaccaatag atacggcaaa 120  
 gattttgtgg caggggtgagg cagttactcc tttgcctgac ggggcggcgc ggtagaactg 180  
 gtttggaggc tcttaaaagt aagcggacta ttgagagggg gtgagaggag tgacgttgaa 240  
 ggaggggttc caatagaaca gggattctgg gcagattgga gaggaaatgg agtgaatcta 300  
 ctgagaacga taccagggtc tggcttcaag ttgttcacat acgaataact taaagattaa 360  
 ttcttc 366

<210> 2578  
 <211> 179  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> Clone ID: LIB190-052-Q1-E1-C12  
 <400> 2578  
 cggacgcgtg ggcgtattcg cgcaatgaga ggcaacgtga ctatgaagac agaccctttt 60  
 tgaagttggt gaaaccactt cgtgaccgtc ctatcagttt tatttcccca aatgatgaaa 120  
 atagcaggat tcctcattag ttggatagta caataaatag ttgttgagct ttatgttgg 179

<210> 2579  
 <211> 415  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-052-Q1-E1-C4  
 <400> 2579  
 agataatggc agttaggcaa tgtttgctta tttcatatg tctttcagct ctgttaggtt 60  
 caactttggc tgcttctggt gcaacgtcta tttagtcggt gcttcagact aaaagagacg 120  
 agacttttac agtccaaagc agagagctgg ctaatctaac agacgtatac aacagcagtg 180  
 tattggactt taccttcogt gcgtgcaatg aactgcttg ggaagaatcc agagccaatg 240  
 tcaactggtgc acttagtgca gcaaaacaaa acgtaacagg agcaatagcg tttctagaac 300  
 gcttgatagc agcaagcaca gtgaataaaa cgggtggagtt tagtaagctc tctagtggta 360  
 cgaaggaggt tgtttcgctg gcagggtttac cgcttaattt caganaaat tctac 415

<210> 2580  
 <211> 414  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-052-Q1-E1-C6  
 <400> 2580  
 ggccttgtgc aagtcaacaa acatagaaaa gtaaagagat tgcaagaaga taatattttg 60  
 aatagagcac tatcacaacc aggagatgta tttctgtgct tttgcaacat ccagttgttg 120

gtgaatgcag aaagagcgag tatgaggaaa tattacttgt ccagaaagta tcgaattgtg 180  
tcgtctatta gctggacata gagcggtttg gttcgatgaa gatttggatg actttcgttt 240  
ggaagctatc ttgggagcac tattgtgtac ttgttattgt gagtggaagc gttttgaagg 300  
agaattgggg gtacaagaat ggaatgaatt ggagaagata tcttccttag atacttggaa 360  
gcttgtgctt ggtacaagac anagagtgga taatatgtta cagcgagtac acaa 414

<210> 2581  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-C8

<400> 2581

acccttttgt ctttcggtag agagtgacaa ggggttgccg taccaagacg gcatgtctat 60  
gcgctcgggc gacacaaaac gagaataacg agggcaaaag acggaatgcc attcgataga 120  
gagtaaacad gcgtgacact gggaatgcaa caaccgctgg ttcgtctttt gcatagccag 180  
ccggtcgtgt cgttgtctcg ggcgagttag ctccggtgta gcaaggctac caagccttct 240  
tgcaatcgtt caggctttat gtcgattgat agttcaagtg tattttggaa aaagagtaat 300  
acaaggacga cttggcttgc atcttctcgt ttccttcttg ggttgctagt gctgtaagtg 360  
ctcagggaaa cctacagtga aaccgaaaca atcgagcgag gttttgctat gacag 415

<210> 2582  
<211> 339  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-C9

<400> 2582

cccacgcgtc cgtctttttc ttgttggctt ggtccgactt gcaaagagga tgatgaaacg 60  
agacaagatc aagtcttggg atctttccca gtcttatcca gtggcggtag aaaatagaat 120  
caccgaatgt cttgctttat tacaaaatca acccaacaat attccttgct atatccaaca 180  
atatggaata cccgaagtgt ctggtttgct tgctttgata tggaactggt gcattgaaaa 240  
attctttgct gtcgattcta ctacctctt gcacgttgct tggtcatcgt attgggaatc 300



gatcgcacaa tatcagcaac atccaaccga cgacccact

339

<210> 2583

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-D10

<400> 2583

cccacgcgtc cgagttctgt ctggttcgag ttttgaggag aaggaacgtt gcaagtcaaa 60  
gcaacccatt ctcgatatgc tcttggaataa ttcggcaggt ctgcatcaaa atgttttccg 120  
tgacttttct atgtggaaaa gaaaagaaag gacattatat ctcaaagatg atctaccagt 180  
gatggattac aaattcatct tgatgagttg ggggtcaacg atccatatga aatgaagtct 240  
caattatgga aatgacttgc cagggttaatt tcttagcatt catttggctt ccttatactg 300  
gaaaactccg atggaaagtt tgtggataaa ttcagtaaaa agtataacag cagaatactc 360  
taatgggaaa catttgtcga aatttgcgtt ttgtgaaaaa ataactggaa gtttcaaagg 420  
aaccgctgca 430

<210> 2584

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-D11

<400> 2584

cacatttggc gggattccga gagagtgcac gttgttataa caaacgtttg ctgttgacaa 60  
gacttttacg tttttatcct tttcaatgtc tgcagtggaa gtcttacaag taaatgttct 120  
aaataaccct ggtttctttc gagaccggtt ttgttttgaa ataacttatg aagtgaagaa 180  
agcgttacaa caagatattg agtggaaagt aatttatgtg agttgtgcca aagacgagag 240  
tttgaccaa gttttggatg aagtacttct tccagcagat acggtgggtc gttttcagtt 300  
tactttggag gtctcagcac ccaatccaga caaataacct agtgatgact tattgggtat 360  
tacggcagta ttgatcactt gttcctacaa agatcaagaa ttca 404

<210> 2585  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-D12

<400> 2585

```
cccacgcgtc cgaagtttct tggcttaggc agtctcgtat ctgagcgtcg ccatgacaat 60
gaaaatacac ttttggcgac agaattcacc tttcagtatt ctgagagcag gcaaaacacc 120
cttttttagta caatatccat gctgcagagt tcgaatgtaa taagaaaaat cgctcatttt 180
ggcgctgat cgaggcttgc catacgcat tctcatcgc tggaatggaa catttcgagt 240
tattttacta tggtgagaag aaggctgtct cagtggcgac atttgtcttc aaaataattt 300
tttgcgagaa aggaaaataa cgtgagagta taagtacggc caagaagagg catttcaa 360
gaaaactaag atggaataat acgtttacta gtttcgagtt ctgtcaggga aaaatg 416
```

<210> 2586  
 <211> 523  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-D5

<400> 2586

```
gggggggggg gggggggggg gcgggggggg gggggggagg gggggggggg gtcgaagtct 60
ggcgccggga tgggtaggac ttccggcggc gaccacgcg tacgaagtgg gaataatagc 120
atggatgagt ataggatcat tgggagtata tggagtaata ataggaggat ggggaagcag 180
ttcgcagtac agcataatgg gaggttgagg aggtggagcg gagatggtat cgtatgaggg 240
agggggtgga gagatctcta gagaaaggca agaaagaaaa gaaaggaaga cacgcggggg 300
gggcggggag aaatcatatg ggagtgaaac ggattacgaa cccgtgtagt cgaggcagta 360
gaagaaagaa tgagtaagaa aaaaggaggt cattccacca ggggagtaaa ggcgcaagaa 420
agaaacccaa agcaattgac gggaatcgga aaaacgggtg gatcacgtaa attaatccga 480
tttacaccga gaaccttacc tctccaagaa ggtgttgac ggc 523
```

<210> 2587  
 <211> 416

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-D6  
 <400> 2587  
 gtactcctcg aaagctatat aagtagcgta tgcaggaaag aataaggtaa aggaagagaa 60  
 ggaagaagca gagagggact atgagcgaga aggtggatag tcgagaggga aaaagcgag 120  
 aagccaagat aaggtatcga ggtgaggaaa gaaggaaaag gagaagaaga gagggtaggc 180  
 ttagaagcag cacgcgagag aggagggcgt taaagcatgg gaggaaagaa atccgaaaaa 240  
 gaagagaaaag aggtaagaaa gaggaccgaa tcagggttaag aggtagagga gcaagaagag 300  
 aagagagaat gctgggtgga gtagcgaaac aagagaaggg aagtaaaagg taagaaagag 360  
 gaaaggttta cgagagaagg aagtagaaag aagagagtgt aaggcggcgt cataat 416

<210> 2588  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-052-Q1-E1-D8  
 <400> 2588  
 aacaaacttg tggaggcaga tgccatcata tttggatttc ctacacgctt tggatatgatg 60  
 tgtgctcaaa tgaaggctat gtttgactct cttggacatt tgtggcaaag cggtcagctg 120  
 gttgggaaac ttgcgggtat ctttgtatcc accggtactc aaggaggtgg acaagaaacg 180  
 actgctttaa ctgccagtag gcagttggca cacttgggaa ggattttcgt tccgacaggt 240  
 tggaatatat tgggaataac ttttcatgtt ttgtgaatat tggataggat attcttatgg 300  
 cagtgatatg tttggtttaa aggagcctca gggaggttct gcttatggtg caggtacctt 360  
 tgcangtgca gatggaagtc gacaaccttc cgaatacgag ttggctagag caaaacatca 420  
 a 421

<210> 2589  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-D9

<400> 2589

gggaaaccaa agacatttgg gttgcaaagtg ttggaggaaa accacaaagc gttttactca 60  
ttgaaaagtt tgtcagttta atggaaaagg aaaaggaaga acgggagaaa tgggcgatgg 120  
aagcatggaa aacgcaatta attgtcgatg ctatttatca atccgcaaaa accaagcaag 180  
tagttgtcat gaaatattag ttttctttgt agtatttcta aagatttcca tgtttgtatc 240  
gtatatgatt actgagatgt aaacgaggag gaagtcagtg tttgttgaag aaagctttgg 300  
ctatacaact gggaacgatg acttgtgcaa taaatgtcac acaaagtga cgtttttcta 360  
cg 362

<210> 2590

<211> 380

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-E11

<400> 2590

cccacgcgtc cggtcgtagt ggtaaatgaa caccgagagc aaaactgtca aacttgtgag 60  
tagtgataat gaagtttttg aagtagacac aagcattgta tccctttctg aaacaataaa 120  
aaacgtcttg gaagacacgg aggatacaga gagcattccc ttgcctaattg tggaaggacg 180  
aattcttgca aaggttatcg agtattgtag atatcactca ctcttaaaga ccattccgca 240  
gtctgaggag gatattgagc gctgggatag ggaattccta aatgtagatc aaccaaccct 300  
ttttcatttg attctggctg caaactatct ggatatcaag agcttggttg atttaacttg 360  
taaacgagta gcagatatga 380

<210> 2591

<211> 377

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-E12

<400> 2591

cccacgcgtc cgcccacgcg tccgcaagtt cctatgatac tctttatatc tcaaggctct 60

cattacttgg aaaggatggc agatgttggg tttgatatta tttctgtgga ttggacgggtg 120  
gatattggca aggcgagaga acgcatgggt tcttcttctg gtattcaagg caatttagat 180  
cccgtatatt tgtaggggac acctcaactc attgaagagc gcacgcgtga gattattcat 240  
aaagctggac ctctgtgtca tattatgaat ttgggacacg gcgtattacc caacacacca 300  
gaagaaaatg tagccaaatt ctttcaaacg gtgcaacaat ttcgttggca agaataaatt 360  
tactctatta gctgccg 377

<210> 2592  
<211> 422  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E1-E2  
<400> 2592

cccacgcgtc cggtgttttt cgtaaaagtt ttcattcagc atggctccta aagggtgctaa 60  
aagtgtaccc gttgcaggta aaaagccggg ggcaaaagtt gaaaggaaga cgtcgagaag 120  
aagagatcgg agacgtattc caggagagaga tacaaggttc tgaagcaagt tcatcctgac 180  
accggaatat ccgcaaaggg tatgagcggc atgaattcct tggggagtga tatttttgag 240  
agaattgcgt cagaagctag caaattagct gcttattcga aaagcaagac gcttacttcg 300  
agagaggtag aaactgccgt tcgtcttttg ttaccaggag aacttgcaaa acacgctgta 360  
tcggaaagta caaaagcagt aacaaaatac acttcttctt aacgtacaa caagtgtca 420  
aa 422

<210> 2593  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E1-E3  
<400> 2593

ccattttcct ctgtcgtgga taggcgatga cttgggttaag attgttgctt acgaggcaac 60  
tggcaggga atgtggaaat ataacactag ttggtagtct tccatccatt cgatcgggtct 120  
ctagtgttct tccttcatgt gactagtcct tcgcaagtaa cattcaaagg agatccttct 180

cggtctgttcc ttcggaggaa agggcaaata aacaaggggg agaagctaata gttacacaag 240  
 atacttccaa aagtacttct ccaactgttt tgcaggatac ttatggcttt gaattaagaa 300  
 caggccgagc ggacaggatg ccttcttcgt ttgagcaagc cacgggaagt gaacgagcag 360  
 aattggaaga tcccgatatc tatcgtaatc ctgaaaagtt tgtcaacagc a 411

<210> 2594  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-E5  
 <400> 2594

cacacattca tgtttgcctt tcagtacagc ttatgttcca gttctattta tctaaggaga 60  
 gttgcatgga agagtatcaa ttatcatggt taccctcgag tgtgctgcc taaggagtag 120  
 ggtaatcttt ccaagggggg aggtcaagtg ctgccgatag tagcagtgc aaggaagggtg 180  
 tcaagaatat cggggggggc gagcaacgaa aaagggtggcg aaatatatca ctcaagtgaa 240  
 gaaaatgtaa agaaggagc agaaaaagta tcagaaaagg ttgatgaatt caaagacgct 300  
 gtgcaggata gaatggaaaa tgcagatact tccaaagcaa aagacgtagc aagagatggt 360  
 gtagataagg tcaaagatgc tggacaatcc gtaaaggacg gtgtctctga tgc 413

<210> 2595  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-E6  
 <400> 2595

aagagggtga tgatgcaggc aaagaagtga cgcagtagat cagagagtaa cacatgcaag 60  
 taggtaaagc gaacgggtga gtaaagaggt gggaaagagt ggaagagcat gaaagcacag 120  
 gagaatgtaa gaaatggtga gagtggaaac cataaaggaa gtaaaagcgg gaatctgaga 180  
 ggaggaaagc cacattggga cggaggaaaa ggtccaaacg ggagaagtca gcagtgggga 240  
 aaattgggca atgtacaggg aagtatgacc cagtaatgag gagtggagta aacagaaaag 300  
 gaagtaaaag gagggaatga acggaagtta tggcaaaaac acgtgccagc agcagcggta 360

aaacgtgtgt agcaggcgta gagcagaaga actgggtgta aaggtcgagt 410

<210> 2596  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-052-Q1-E1-E8  
  
<400> 2596

ggcgctggtg gttggtttgg gctattgtgt ccctcactac gaggtttggt tttctgttgt 60  
ggtgaagact ttgttttagca acttgtgtgt gaaaaatggt caacttggtg gagacggatg 120  
agggacgaaa cctgttggcg ggccgggcaac tcattttata tgttgctatg ttggctttct 180  
ccgccactat tgtggggggg agggggaatc ccatgggggg gctctatcta attgccaatg 240  
aatatagaca cccggatcct agcgaacctt ttgtacccat tgacaaagtg aagaacgtca 300  
ctttctacaa gtctctttcc ttctgtgcct ggggtgtcac aggagatcgt acgcgtggca 360  
tgcattccac ttgccgatgg gtca 384

<210> 2597  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-052-Q1-E1-E9  
  
<400> 2597

gcaagtttcc agatacaaag aagaaaattc tatgctccga gaagccttgg atcgttttcg 60  
ttcgagcagg agtttatgtg gtgcggagac aaggacgagt gtatgttatc cagagtctga 120  
agaagattca tcgtcaaaag tgcaagagag gagaaagcgg cggcggagga aaggggagga 180  
tattagcagt ccgaagaggc aagagagtga gtcacggcgg agtgaggagt ccgaaagaga 240  
ggaacgagag caatgtaacg aagaagaaaa ttatttctat cacaaacttg attctcttta 300  
tttgaagtct aatcggcaga ataatgtgac aacaaatcct gcagagtttg tttcccttgt 360  
caaagatatg acagagcct 379

<210> 2598  
<211> 388  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-F10

<400> 2598

cggtggattt ccaggcttcg atggagagtc acccataacg ttttacgata tttgttgtgg 60  
aatccgagag acgatagatt tgctttttcc tgcggatcaa gtgcaagtca tagcagagcc 120  
tgggcgttat tttgtttcat ccgcctttac tttggctacg aggattattg cccgtcggtt 180  
tcgaacccaa tcacaggaag gagacggcag ttgtctgaag gcaggctttt gtttgaaga 240  
agatatttct cgttcgagtc ttgttgctga ttactatgtt gatgatgggtg tttatggttc 300  
gtttcgagat gtgatatctt tgggtgtggt attctatccc aaaacgttta gcagctctga 360  
cgacactgct attgactatg cacgtttt 388

<210> 2599

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-F11

<400> 2599

cccacgcgtc cggaacaagt tttgagcaaa aatcaaaatt tcactgtatg ctaattattt 60  
taagtaccaa gtttagcatc aatgttgctg cggagttgaa tcaaacaagt cgttgctaca 120  
ctcctggaaa caagctccct caaggcattg atgttccgga aagatgtgaa ttggtcattc 180  
tttgtgaaga agatgttgaa aactttattg gcaaaagtat attgtcaggt ttaagagagg 240  
cctttacgtt gacagataat ccaagtttga aggttattga gaatcccgtc ctgaaagaca 300  
tggtgttgct tttggaccaa atgagtctga aaaggttgtc gtgagttgga atttattgtt 360  
agttgttatt ggatagtttt atgatattta tataaagaat c 401

<210> 2600

<211> 357

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-F12

<400> 2600



cccacgcgtc cgggtcgcgt agtagagtaa gtgtaaaagg gaaaggaaag gagagaaaga 60  
 ggaaagggat gaaatgcaga gatctctaga gaaaggcaag aaagaaaaga aaggaagaca 120  
 cagtaaataa ggcgagaaaag cataggaagt gaaacggatt aggaacccgt gtagtctatg 180  
 cagtaaaaga aagaatgagt aagaaaaaag ggagtcattc caccagggga gtaaaggcgc 240  
 aagaaagaaa cccaaagcaa ttgacgggaa tcggaaaaag ggttgatca cgtaaattaa 300  
 tccgatgtaa accgagaacc ttacctctcc aagaagggtg tgcacggctg tcgaaag 357

<210> 2601  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-F2  
 <400> 2601

agcccacgcg tccgcatttt tctttgggag aaaacgcagt cgtcgactca ggggaccgaa 60  
 gaagacttcg aaagtagcac ctctcctga agctctggtg aaaaaagaaa aaaagggaga 120  
 ggggggaggg gggaaaaacc ctcttttctg ggggggaggg aagaactttg gtattggtgg 180  
 agatgtacaa ccaaagagag atgtgactgc gggggcgagg gttatcgag gggggtgcgt 240  
 cttcaaagac aacgaaagg tctcatgtcg agactcaagg tgccacctgc gatccaccag 300  
 tttacgcata ccttgataa aaacgtttcc aaacagctat tccgcttgtt 350

<210> 2602  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-F4  
 <400> 2602

gattactagt tctgcatttg agccttcgaa tatgatggcc aaatgcgatc caagacacgg 60  
 aaaatatatg gcttgctgtt taatgtaccg tggtagcgtc gttcccaagg acgtgaacgc 120  
 agctgtgggt tccatcaaga cgaagcgtgc gattcaattt gtagactggt gtccaacagg 180  
 attcaagtgc ggtatcaact agcgggcgcg gtctgtgatt cctggagcgc ggaattggct 240  
 aaagttcaac gtgcagtcgg catgatttcc aacagcactg ccatctctga agtctttgcc 300

agaattgatac acaagtttga tcttatgtat gcaaagagag catttggttca ttggtacggt 360  
ggagaaggta tggaagaacg tgaactttcc aaagcacgtc aggatcttgc cgctctccat 420  
aaggat 426

<210> 2603  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E1-F5  
<400> 2603

cggacgcgtg ggcggacgcg tgggacaagc cagggtagtg gatatgattc aaagttttgt 60  
tactagtttc tattcttttc aagattcgaa acaacttcca tcggaagtgt gaagtcgttt 120  
tgaagcagtt gattgtgtgg tgtagccaac tggagtggca aggaaatgga gagcagcatg 180  
atcagctcgg gggaggaggg gcgtcagttg tgggagtgtc tactagaatc tcaaactcac 240  
tatgcacaaa tgatggaaga attgattcct ttattgattg ctctcacgca acgtactacg 300  
gaatacgtga gtcactatgt tgtgttgata agaaactata ttcacttggg aggtcgccat 360  
tttgtggtaa cttatggaaa ttggttgtgt tcctttttat attcattgct tgggt 414

<210> 2604  
<211> 317  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E1-F8  
<400> 2604

cccacgcgtc cgcccacgcg tccggctaaa cgttgccttt gtcgtatgtc ctctagcgaa 60  
tatagtgatt ccctttgtca acaaagatac ttgtttgctt tggctctgtga atgtgttcct 120  
gatcgtagt ctttatgcgg agcggagggt ttggtgaaag acgcgccagt cgccatgaga 180  
attcgtggca tttggagggg ggcgcggcgt gcaacggaag gaggagggtc aagttttgaa 240  
caagtaaaag gtttttggat tggggtagtt ggaagtaggc aaaggagaaa ataaaagaaa 300  
gcaacgtctt tttagct 317

<210> 2605

<211> 344  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-052-Q1-E1-G10  
  
 <400> 2605  
  
 ggtcaaaaag cgtctttttt ttttctctgg agcaaagtgc gtttcgattg tgaatccaaa 60  
 catttggtgg cctcttattt gtccttggtt ctccaaagat ttttttttcg ccctagaaaa 120  
 ctttaacgga tcatgttgga ggctccagtt gaagaaaaga tactttgtgg tagacagcga 180  
 tattgcctca gattgtagaa agtattgcac tggtttatac agagataacc acgtcttagt 240  
 gacactgaat ttataccgtc cgctgtctga gagtcgtttg ttcttagtat tgcatttttc 300  
 ttttgttttc ttgaaataaa aatttggcgc caatttgtag tggc 344

<210> 2606  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-052-Q1-E1-G2  
  
 <400> 2606  
  
 cccacgcgtc cgcgacgcg tgggtgcagg caaagaagtgc acgcagtaga tcagagagta 60  
 acacatgcaa gtaggtaaag cgaacgggtg agtaaagagg tgtgaaagag tggaagagca 120  
 tgagggcgca gaagaatgta agaagggggg agagtaaaaa ccataaagga agtaaaagcg 180  
 ggaatctgag aggaggaaag ccagaggggg ggggataaaa ggtccagggg aggagaagtc 240  
 agcagtgggg aaaattgggc aatgtacagg gaagtatgac ccagtaatga ggagtggagt 300  
 aaacagaaaa ggaagtaaaa ggagggaatg aagggaagtt atggcaaaaa cacgtgccag 360  
 cagcagcggg taaacgtgtg tagcaagcgt aaagcagaag aactgggtgt aaaggtcgag 420  
 t 421

<210> 2607  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-052-Q1-E1-G3

<400> 2607

cggctcgtga gatgctactc cacaaggtaa agaacccttc gagagtggac tttgtccatg 60  
tcgatgttat ggaaaaatct gtactttcta gcgtattaaa ggatgctgag gtgggttttct 120  
tcggtgcttc agctttctgca ggggtggagag tccctggtac ttctaagaac accccgaaac 180  
aggtggacta cttggggggg atgcgggtcg cacaagcggc ggggcaagct aaggttaaac 240  
gtctcatctt ggtaagctca gcaatggtga ctaaccgaag ttcattccct tatttgttct 300  
tgaactctgc atttgacga attatgcatt ggaaaatgca aggagaaatt ggagtcatca 360  
aagttcatga gaaaaatcca gaaatggctt atactattgt tcgcccagga cacctg 416

<210> 2608

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-G7

<400> 2608

cccacgcgtc cgcccacgcg tccggtcgtg tacgagggtt ggtcatttgt tgagctgaag 60  
agtcaatgaa caagcttcag ttgctatgcg taaccaaaca acctgtttca agagcatggc 120  
aaagagaaca gaaggggtta gactccgaga agaaatcagt tgcagaagga actttgggaa 180  
gcaggtggaa ggggagggag actgcacaag agagcgcgta ctttaatcgt gaagatgagc 240  
aggcagtaca aaggttagca gcgaaacttc ggcagcaaat tgagccatcg gaggaagtac 300  
tcgccaaca gagaaaaggc gtggcagaaa tcttacaaaa gcacggtgtc cagcctaatac 360  
aaagtttgat tgaagatatt gtccgtatct ttcattaatt cctccgtgtt tga 413

<210> 2609

<211> 375

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-G9

<400> 2609

cccacgcgtc cgcccacgcg tccggaaaag agaagagagc tagaaaggag gtaaaagaag 60  
agtaaaagga ctagaagagg tacggaattc acgaggaagg agcgtgaagg aaggaggaat 120

cccaagtaat cgaggaagaa aaagcttcgg tgaaagcgtg aacggatttt gtacacactg 180  
 cccgtcaagt tctggaagtg tgctaggagt ggagtaaaca gaaaaggaag taaaaggagg 240  
 gaatgaaggg aagttatggc aaaaacacgt gccagcagca gcggtaaaac gtgtgtagca 300  
 agcgtagagc agaagaactg ggtgtaaagg tcgagtagta gagtaagtgt aaaagggaaa 360  
 ggaaaggaga gaaag 375

<210> 2610  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-H1  
 <400> 2610

agacgatgat gtatttgctc ccaccaatga atacgtcatt ggaactgcca atatgttacg 60  
 cttagtgttt caagatattt atcctgtgaa catgcgcaag gaagaagatg aaggaacttt 120  
 gtttgggaga tttccagatg agagttatga tggctatact agtaacgttc caggaaatcc 180  
 gtggattcta tgtactttag gaatggggca atattattat gaggttggag cagagtgggt 240  
 gaaacatgag gagattgtca taggaaagtg gagcaaagac tttttcagac atttgagggt 300  
 tatgectcct ctttctctc ctcaatcttc tatatcaacg accattactg gaaaagcgat 360  
 ttgtagttat gtttctgctc tattagaaga aggagatcgc gtattgaatg ctat 414

<210> 2611  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-H10  
 <400> 2611

tgattcttct tcttctgggt cttctgggtc tgagagtgc gatagctttg attcgtcatc 60  
 agatgaggat agctcggatg atgagtacta tagttatgat gaagatattt ctgattatga 120  
 ttcggaagaa gaagttgatg acttgttttc agaagaagac acggattcag aagaagaagg 180  
 ttccagtgc tcggatgacg tgtaaaagag tgtacagtgc agcaatggaa caaaagttgt 240  
 ttcgcaacag tgtatagaca gaaatagata gatgtagaaa ggaaaacacg caactattat 300

tatctattct tttcaccaag gaacaaccgt ttgctcgtcc ttgtgggcgt atatatgtct 360  
ataga 365

<210> 2612  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-052-Q1-E1-H11  
  
<400> 2612

tgccctagtt gccattactt tgggaccacg tggagctttc ctttctactc attccaatcc 60  
ttccgtcata gaaaagaata tcgcttgttt tccttgtttg tcgccaggaa aggcgcgtctt 120  
tcgacccaat tttcaggcga aaggcactat caacgcagtt ggagcaggag acacatttac 180  
agcaggtata ttagctatgc ttctaagaca agcacattct tcactctttcc tatctttgga 240  
attgtttgga gatgttggat tggtgtgtgc tatgcaaaga attgactctg gagtcgaacc 300  
aaaaaactg caaaaacttg ttatgcaact cgatgagatg ccccggtgctt ctgttcagtc 360  
cctttgatca tttgtaataa atcttccaac gcaac 395

<210> 2613  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-052-Q1-E1-H12  
  
<400> 2613

cccacgcgtc cgcaagtat tcaatcctcc aaagaagcct atgacggatg atatcacagg 60  
agagcctctt gtgaagcgtt ctgatgataa tccagaaact ttaaagaaga gattagaagc 120  
atttcataaa agtacggatc ctgtgattcg ttattatgag aagaaaggta ttttatgtcg 180  
aatagatgct tctaaagata tcgatcaagt atctcaacaa gtggagcaag ctattgaaga 240  
acgacaaaag actgccaatg cagcctgaaa gttgttttgc aagtaaaaag tgttgttgtt 300  
tttttgtgcg ttttaaaaaa aannnnnnan a 331

<210> 2614  
<211> 364

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-H2  
 <400> 2614  
 ggtgtatgat gcaggcaaag aagtgacgca gtagatcaga gagtaacaca tgcaagtacg 60  
 taaagcgaac ggggtagtaa agagggtgtga aagagtggag gaacatgaaa gcacagaaga 120  
 atgtgggaga tggttagagt aaaaaccagg gggggaagta aaagcgggaa tctgagagga 180  
 ggaaagccac attggcactg agaaaggggc agcgggatag aagtcagggg gggggaaaat 240  
 tgggcaatgt acagggaagt atgaccaggt aatgacgagt ggagtatcca gcaaatgaag 300  
 tataaggagg gaatgactgg aagttatggc acaaacacgt gccagcagca gcggtaaaac 360  
 gtgt 364

<210> 2615  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E1-H3  
 <400> 2615  
 atttgaaacg cgtgttttgt tttttacttt gtacttgatt cttgtaaaac atgtctgacg 60  
 atattgttgc cttggttatt gacaatggct ctggtatggt gaaagcagga gttgcagggg 120  
 acgatgctcc tcgttccatg gtggcgtcga tcgtaggtcg accaagacac caagctatta 180  
 tggttggtat gggagggaga ggggagttat gtgggtgatg aggctcagtc tcgaaggggt 240  
 atactctctt taaaataccc aatagaacac ggtattgtca ctaattggga tgatatggaa 300  
 aagatatggc accatacttt ctacaatgaa cttcgaattg cacctgaaga gcatccagtc 360  
 ttgttgaccg aagctcctct caatccagag gcaaacaggg agaaaatgac tc 412

<210> 2616  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-052-Q1-E1-H4

<400> 2616  
 cccacgcgtc cggagacatt ggttgcttgg catgagttag ttgaggttgg acggagacac 60  
 tcgtgagttg gtacgacagg ctgcggagta catcggttcgg aaagaatata aagtttccga 120  
 tatagttcga aaacgtctgt atgaagaaga cagcaggttt gcctttcttt ctccaaagcg 180  
 gtcgcaccac gaagaaatag taggagaact gggagaaaca gtacagagac tgggagccaa 240  
 aagaaagcat aaaacacaac acacctcagc gaaaagatat agaaaaacta cagaaacgga 300  
 agattatgga gacagactgt ccacagtttc tatgggtacc ttggcctcat atatgaaccg 360  
 ccacaaggaa agagtgcctt atcaggtact tgatatggan gaaatactcc acgcaacacc 420  
 tttatctccc gtc 433

<210> 2617  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-H7

<400> 2617  
 agtgactgtc ttcctattcc attttccata caatactcta attgtccgta aggtttcaat 60  
 attattacaa gtaaacaatga gttgttcaaa gtaaaaaaaa agggcgagag aggaagaaaa 120  
 aaaaaagaat aatggcgggg agggttcaga cacaaaataa cttcaaaaga aaaataaaaa 180  
 gttctccaag cgggggagga gggagtcaag ccaaggaggg gacaactagg gccgtcctgc 240  
 caggaaggc actcgaattt accctgcata gcccttttaa aaccatcta cctttcgcca 300  
 atgtgcataa tacggaatca gtttgaaaaa ctcaccgttg ggaaaagatt caccttccca 360  
 aaacttatcc 370

<210> 2618  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-H8

<400> 2618  
 cccacgcgtc cgcccacgag tccggcagaa tggacgacag gcttccacgt ttcaaaagaa 60



ctttccacag agtgctttat aagaaaagaa aggaggacac agtaaatgag gcgagaaagc 120  
 ataggaagtg aaacggatta ggaacccgtg tagtctatgc agtaaaagaa agaatgagta 180  
 agaaaaaagg gagtcattcc agcaggggag taaaggcgca agagggagac ccaaagcaat 240  
 tgacgggaat cggaaaaagg taagaaagag gaccgaatca gggtaagagg tagaggagca 300  
 agaagagaag agagaatgct ggggtggagta gcgaaacaag a 341

<210> 2619  
 <211> 246  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E1-H9

<400> 2619

ggagtgagtg tgcagaggac tcgagccaat cgattggaat cctattggca atgactttgt 60  
 cgtggagtgt agttctggta cgggtgttga tcaagtttct ttggaagaca gagaatatta 120  
 tgattatgat gaaaaggaaa aggaacaagt cgctattacc ggtttagaat ggcaatggaa 180  
 gagagtataa atttccaaac aacaacaata ataaaaata tagtcataga aattgttttc 240  
 cacaat 246

<210> 2620  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-A10

<400> 2620

agccccacgcg tccgcccacg cgtccgatcg tcttccacgc ggaagtaata tgatcgatcg 60  
 aacagcattg cgcaatgttg gaatgcagta tgtaacaacc gcggatgata ttggacatcg 120  
 cttggtcgta gagatccaac taaaggaatc cagcaaatat aatagtcaca tgaaggaagg 180  
 agaacgacca aatgcggtta cagatatcat ttctacggac cctgaaatgg ataggaaagt 240  
 atctcagtgg gtgtcggaag gacaaaaggc attcttagta gaagatgagt tgacgggtga 300  
 acgtcgagga atattcttaa gctcaaccaa attgaaagtt cagaaacaag ccagtcagga 360  
 ccgaaatagc aatcatggag taaatactag ca 392

<210> 2621  
 <211> 334  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-A12  
 <400> 2621  
 cggacgcgtg ggtgggggta tcaggttgtc ctccaccatc aactacatct cgaagaatag 60  
 tactgttcat cagtcaagta agggcaaagt ctctgataa caacagcagc cactgtttgc 120  
 acactttact ttcgacagta cactcgattg acttgactcg atgcaaattg gcatgggtgtg 180  
 tctgacgctt gacgctcgag atatgtgctc tcgatacaga atcatatgga caagggccatt 240  
 gcgctttgat agtgaagaac gttacaatgg cgaatggaat ttggagttga agaaatgatg 300  
 aacactctac ctgctccagt gatagatgaa cgtg 334

<210> 2622  
 <211> 252  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-A2  
 <400> 2622  
 ctactgaca tcgtatccgc ggttcaacac tagagacgaa cagcacccgac tgtttaacac 60  
 aaacacagca ttctgccgaa ttgtagaaaa tgctcgagta tcgagtgtgc ggcttgccaa 120  
 atactaccga ggaacgaggt gtagcatgca ggcaaagaag tgacgcactc gatcacagac 180  
 taacacatgc aactaggtac agcgaacggc tgagtaccga ggtgtgaaag actggaagaa 240  
 catgcaacca ca 252

<210> 2623  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-A3  
 <400> 2623  
 ggtcaggaat tccagtcacg cgtcagatgc aagcggccct tgatgggata ttatgctttg 60

gcaaatacca aacagccttt attcgaaagt ccaacaaagc aatttgactt gtcctcacta 120  
 caaaagactt tcttttgtat tggtcgggtt tgtttaagaa gcggctatgg attaggtttg 180  
 ggagttggct gtgggctggg ctttggtcgt gggtttgctt tgatggacct gtctagtcaa 240  
 ggtgtcggta gcaccggtgg tattcctacg cagttcttgt atggtttgcc ttttggacat 300  
 tacgtttctg ggtttttgca gaacttagct ccaaaatttc ctggaagttc aacagggtatt 360  
 ggctgtgggtt ttggtttggg ctatggcggtt ggaattggtc tac 403

<210> 2624  
 <211> 343  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-A4  
 <400> 2624

gtccgctgca agccgcccgt gctgggatat tatgcattgg aaaataccaa tacagccttt 60  
 attcgactgt ccaacagtgc actttgacat gtctcacca tcacacacgt tcagttgtgc 120  
 tggtcgggtt tgtttaagaa cctgctatgg attacgtttg ggagtttcct gtaggctgcg 180  
 ttttggacat gagtttgctt tcttgtgtcc atgtcaagtc aaagtgtctg aatcaccagt 240  
 ggtagtecta ccctgttcct gttccgattg ccgtttgtgc ataaagtcac tgcatttttg 300  
 caacatttac ctccaccttt tcctaggagt tcaacatgta ttg 343

<210> 2625  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-A7  
 <400> 2625

agaagaaaag aagagaaaag ccgtactgaa gaccgacaca ggtactcgag gagaaaggag 60  
 acccaaatta aggtgagaga atggacgata aggaactagg caaaaggata tggatatctgc 120  
 ggtagaacat atgaaagaag cagcaccgac tgttttagcat aaacacagca ctctgcagaa 180  
 aagagaaaat gtaaagtata gagtgtgcgg cctgccaaat agtagagaag aaatcgatga 240  
 aagtgaaagc gagtaaaaga tgaggtatag agaatggcgg tcctaacagt aaggatccaa 300

aggtagcgaa gtaaatagac gtttgaaagg cgtccagtat gaaaggagaa acgagtgtag 360  
 cactgtctag tcgtccaact cagcgaaaca gcaataactg tgaaaa 406

<210> 2626  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-A8  
 <400> 2626

agagcaattg agctaatagaa actggtggaa gaatgactac gttggactac gaatatagtt 60  
 caactccgtt tacagggcca ccttctacac ttcacactgg tacagtaaag ctggataatg 120  
 atgaaataga gcgttattta tctcaactga gaacagcgtc ttgcaagccc cttgcagaag 180  
 aggatgtctg taaactgtgt gatatagcgc gggagctttt tattgaagag tccaacgttc 240  
 atcctgttaa ttgtccaata actgtttgtg gtgatatgca tggacagttt cgctacttgt 300  
 tagcactcgt taaaatacgt ggcaactgtt cggaatacaa ctgtcatttc atgggggact 360  
 atgtaaatag acgatattac tctgtggcag caataactgc cc 402

<210> 2627  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-B1  
 <400> 2627

gggtcgagca cgcgtccggg aagaacggac cgagttttac aagtcgatat tgctggagta 60  
 ttcttctctg ccgttttttc aggagttttg atggtaacaa agttcttttc tttagtttgt 120  
 tatttactgt atttagattc ctgccttttt tgcgttcaat atgttaattc caatagagca 180  
 tttgaggaac ggaagtactt attttttcat tgcggtagta attctttgtt tcgtagctat 240  
 tgctgttctg gccattctgt atgtaagggt gcttaaagga aatgaaagaa tgcgacttga 300  
 gttgctgttg ggcaaggaga agacagcaac aataacagga acagtgaata gttagaaacg 360  
 ttgatgttcg tagatattca ctac 384

<210> 2628

<211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-052-Q1-E2-B10  
  
 <400> 2628  
  
 agcccacgcg tccgaacttg acatgcaaca aagtaacctt cgagtagtcc aatcttcttt 60  
 ggtggcaagc tttgtcctca ttctaagtat aatctgtgcc attcatgcag taacagccga 120  
 tgaaataaca agtttcgaga gaggatacca aacagttgca ccaactcaga cgcagcaatg 180  
 tcaaaagatt tgtgtcaccg ccacacaaac tcaagttcaa agttgtattt aaactcagac 240  
 acaggctccg ttcattgtctc aatgtgtcac agcattgcc aactacctgct ataaatacgt 300  
 aacaaaatat aagcacgtgt gctgtgagca agaatacgag caacagaatt atcaacagca 360  
 gcaggtttgt caacagtatt tgcaactatc gtac 394

<210> 2629  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-052-Q1-E2-B11  
  
 <400> 2629  
  
 agcccacgcg tccgatctag tcaaaacaac aacagatggc agcaaaaaac tcgattactt 60  
 cggaagtgtg agattcctct cctagtctta tcgttgcaat agcaatcgtc aactcctcga 120  
 atcggcctct tttcactcga acatatgaac atcctgactt ggtgctgcct agcgctagaa 180  
 caggagaaac gagagaacaa cagctacact atttactttt ccggtctcta gactttattc 240  
 ctggtgaagg aaaaagtgc aaggagatga ccgcagacgg ctacttgggt tgtatcaacc 300  
 cacaagaacc acttcctata ttcgcatatg tcaccaatac aagtgtgaag attttattgg 360  
 cattgggtatc gcgtacagct aatgatatga aa 392

<210> 2630  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-052-Q1-E2-B2

<400> 2630

cactctatta tattggctat caaatccgag tatcgctttt ggcttgggcc atcaacggag 60  
aaatttatga agtgcacgtg cgcaattggg gaatgtcgtg gggtgcaacc attcttttgg 120  
gttcggcatt ctactgagc tatacattta ccagacaagt acgagcattt acgagaactg 180  
gagtatttgg attgtatgca ggatttacct gcattttctg gtttatcctt atcattttac 240  
tgcctgagac gtatggaaga acgctagaag atattcgaca tatattcgat gaagggttag 300  
ttggattggc aaaatacaac tggagtcaaa ccaaaacatg gatgaggacg acattaagga 360  
agcagcatgt agcagtcgat tctagcagag aatcggatga acttgcgtcg agcatatcgc 420  
caacgaaaa 429

<210> 2631

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-B3

<400> 2631

gcgaatggga gaattgagca tctttcgtcg tacttttagct gaaaatatat cgatgcgac 60  
tggtgaatgc aacagcattt cacatatgga acttgacgtg aagaatgttc ctgcattttg 120  
cacaacagct ggcgattcac ttgataatgc tgacttgtcc aatgcttga aactattcta 180  
tgagcattat ttgtcaagag acggaattta tttgcatgaa gaggaaaact cttatgggcc 240  
tggggttcat attcgtatat ctgatgtcat gcagagttct tcgattactt gtgagggaga 300  
atcatcctcg gaacaaatat caaacctttt acagaaacaa aagaccgact tgataggtaa 360  
ttcattgaaa tgttttgatg actcatgttg cactgtaagc catgatat 408

<210> 2632

<211> 421

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-B4

<400> 2632

agctatttga tgatcatttg acattttctt aacacaatga agtgagctcc ttgttgaatg 60

tgttgtataa gctttctact agtgtggtaa ctattgcata catggaacgt ctccttgtgt 120  
 tgcaacgtat tcgatactgg ttggtgggtg ccagttgtat gatgggtgtg gctttggtat 180  
 ttatgttgat gtttcgacgt tctttttggg agcgtgatga gttgtattac aaggccaaat 240  
 ctgtttaaag tcaatgttgc tatttgtact tgaaaatctt tttttctttt tggaatatgc 300  
 tgggtactacg ttgttgttgt tgtatcgagt gacatgtatt tcgtctttgg acaacacaag 360  
 acatgtgttt ttgagtagta taatacatat gcaagacggg tcgagacaca cacatatata 420  
 c 421

<210> 2633  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-B5  
 <400> 2633

agcccacgcg tccgcccacg cgtccgcaat acattgcgcg tgcaagaacg gcaaagacat 60  
 cgcaaaaagt gaatgagatg ctcggctccg tgaatacgag ttctgcattg gaagcttttg 120  
 aaaggatgaa gtccaaagtg gaagaattgg aaccaagtgc ggaagcaagt gcgggtatga 180  
 ttggctctgg aaatgccaat ttggaacgac agtttcaggc attggaagga acttcggtcg 240  
 atgatgaatt ggcacaacta aagtcgagta tcgagtcttc ttctcgacct aaatcacttc 300  
 cttttcagca ggattccaat atagaagctg agttggaccg aatgaaaaga gaacgagatt 360  
 attcttgaac tgttcaaggg gggcaatgaa tagacagtat atatatatat atatataaag 420  
 ggtat 425

<210> 2634  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-B6  
 <400> 2634

caagcgtaga gcagaagaac tgggtgtaaa ggtcgagtag tagagtaagt gtaaaaggga 60  
 aaggaaagga gagaaagagg aaagggatga aatgcagaga tctctagaga aaggcaagaa 120

agaaaagaaa gtaagacaca gtaaagtagg cgagaaagca taggaagtga aacggattag 180  
 gaacccgtgt agtctatgca gtaaaagaaa gaatgagtaa gaaaaaaggg agtcattcca 240  
 ccaggggagt aaaggcgcaa gaaagaaacc caaagcaatt gacgggaatc ggaaaaaggg 300  
 gtggatcacg taaattaatc cgatataaac cgagaacctt acctctccaa gaaggtgttg 360  
 cacggctgtc gaaagaacgt gctgtgaagt gagagaacgt acgagaaa 408

<210> 2635  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-B7  
 <400> 2635

cccacgcgtc cgtttgtggc attgttttga agaagagagg cccatcctca ccaactacgac 60  
 gagagaagaa accatgacta cgcagttaga aagaggagaa taaagcgttc cacaacagga 120  
 agaagaaaat attcccgagg acgccaaga cttggccacc tatgttcaaa acttgttgtc 180  
 tcagatgcag agccgttttc aaaccatggc agactctata ctaggcagaa ttgacgagat 240  
 gggtagtcgt atagacgaac tggagaagag catcgatgag ttgatggaac agactggagt 300  
 aaatgaaggc gatggaacag agtctgggtga gggtactacg acaagtcgtg gggagtgaat 360  
 gcttcggttg tagtacgttg gatattctcc agagtatctc gtactatcta tcca 414

<210> 2636  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-B8  
 <400> 2636

cccacgcgtc cgcccacgcg tccgcccacg cgtcggggag gtgatttcca ccaagtcaca 60  
 aagaatcgta aaagagaaaa tgacgatagg ttttgtacat ccacttggaa ctagtgttca 120  
 atgtaacaaa cactacaaaa ctgctacttg ttcttcccag ttttattcca agtcttcac 180  
 gtttctaggg agaaaccatg ggggttgcaa gtcgtggtct cttgcctatg gaagcaaggt 240  
 ggatcggaac aagtacactt acagtcaccc tagttccgta aaacaaggaa gaggaccaac 300



tatggttgct tcgaaaacag agttggaaca acaagtaaga tccagactag tcaagttggt 360  
 tgagcagaca ccttgcacgc ccatcatggt gagacttgct tggcacgacg ctggaacata 420  
 tgatgcac 428

<210> 2637  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-C1  
 <400> 2637

eggacacgtg ggttgaggag gaagaactgt ggaacttgct gttgtctggc atcgccactg 60  
 ttgttgcgaa gacactcgct gctccaatag atagagcaaa gattttgtta caagttcaac 120  
 cacttactcc tttgccctgg tatgctcgct atagaactgg tttggaggct cttaaaagta 180  
 agcggactat tgacagagtt tatattgctg acgttgaaaa ggaattccaa gagaacaggg 240  
 attctgggca tattggagag gaaatggagt gaatctactg agaacgatac cagggctctgg 300  
 cttcaagttg ttcactctacg aatactttaa agatcaattc ttccttccaa ggaaccaatc 360  
 ctacgatgga tttgatttga tattgcgtaa agtaggcgca ggcgtttcgg ctggtactag 420  
 cgctgtaa 428

<210> 2638  
 <211> 181  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-C12  
 <400> 2638

agcggacgcg tgggcgtatt cgcgcaatga gaggcaacgt gactatgaag acagaccctt 60  
 tttgaagttg gtgaaaccac ttcgtgaccg tcctatcagt tttatttccc caaatgatga 120  
 aaatagcagg attcctcatt agttggatag tacaataaat agttgttgag ctttatgttg 180  
 g 181

<210> 2639  
 <211> 419  
 <212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-052-Q1-E2-C2

<400> 2639

cccacgcgtc cgaaaaggat atggtatctg cggtagaaca tatgaaagaa gcagcaccga 60  
ctgttttagca aaaacacagc actctgcaga aaagagaaaa tgtaaagtat agagtgtgcg 120  
gcctgccaaa tagtagagaa gaaatcgatg aaagtgaaag cgagtaaaag atgaggtata 180  
gagaatggcg gtcctaactg taaggatcca aaggtagcga agtaaataga cgtttgaaag 240  
gcgtccagta tgaaaggaga aacgagtgtg gcaactgtcta gtcgtccaac tcagcgaaac 300  
agcaataact gtgaaaatgc agtaaaactag cagtaggacg gaaagcacc c ataagtcttg 360  
actagatagg ttttaaggang agagagaatc atgaagtaga cgaggtgggg taagagatg 419

<210> 2640

<211> 433

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-C3

<400> 2640

agcgactagc gaagttgcag aattttcttcc catcatttct atattcatca tgcgtacggt 60  
tgtggtcact ggagccggag gattcctaag aaagttgctg gttgagaaac tctccaatga 120  
cgaatctatt gaaacaatac tagcacttga tatgaaggag ccactcgaaa gcttagggaa 180  
cttgccataa acacagaaga aagtggtaga tatcacccgac gaattgcaag ttaagaaaagc 240  
tattgaagga tatcaagtcc acgggggtcgt ccacctcgct gctattatgt caagtttatc 300  
tgaagccgat ataaccagtg caatgaaaat aaatatgata ggtgcgatac atatgacgtg 360  
atccgtagcg aacgaggcag caaatccaag atttgtttatc tctagttcaa ttgccgcctt 420  
tggaatatgtt gcc 433

<210> 2641

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-C4

<400> 2641

agataatggc agttaggcaa tgtttgctta ttttcatatg tctttcagct ctgttaggtt 60  
caactttggc tgcttctggt gcaacgtcta tttactcggt gcttcagagt aaaagagact 120  
atacttttac agtccaaagc atagagctgg ctaatctaac agacgtatac aacagcagtg 180  
tattggactt taccttcctt gcttccaatg aactgcttg gaaacaatcc agagccaatg 240  
tcaactggtgc acttagtgca gcaaaacaaa acgtaacagg agcaatagcg tttctagaac 300  
gcttgatagc agcaagcaca gtgaataaaa cggtggagtt tagtaagctc tctagtggta 360  
cgaaggaggt tgtttcgctg gcagggttac cgcttaattt cacg 404

<210> 2642

<211> 419

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-C5

<400> 2642

agcccacgcg tccgcccacg cgtccgccc a cgcgtccgaa tcatgtcctt cgctattcct 60  
gctgttgttt ctaccggagc agggctatct tttggtgtag ctgcttcaat tgcaaaggct 120  
tggtctgacc tggatcattt atgtagtggc agggatagag cgctcttgag tttgccccaa 180  
gttttcaaaa gttccaagga caagggcaat cttctcgctc gtcaaggaca aggttctatt 240  
gaagccccag gtaaagctga gagaattgca agacaaagag caggaggtat ccgtagtgct 300  
gaagatgacg tcgtaccaga ggaacccaac tttctagcaa aggttcccaa acggggagcga 360  
gatgggagag cagcttttcg tccttcaaag aagtcaaacc cgttctccct cggagccac 419

<210> 2643

<211> 416

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-C6

<400> 2643

agggccttgt gcaagtcaac aaacatagaa aagtacagag attgcaagaa gataatattt 60  
tgaatagagc actatcacia ccaggagatg tatttctgtg cttttgcaac atccagttgt 120

tgggtgaatgc agaaagagct attataggaa atattacttg tccagaaagt atcgaattgt 180  
 gtcgtctatt agctggacat atagcgggtt gggtcgatga acatttggat gactttcggt 240  
 tggaagctat cttgggagca ctattgtgta cttgttattg tgagtggaag cgttttgaac 300  
 gagaattggg ggtacaagaa tggaatgaat tggagaagat agcttcctta gatacttgga 360  
 agcttgtgct tggtaacaaga caaagagtgg ataatatgtt acagcgagtt acacag 416

<210> 2644  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-C7  
 <400> 2644

agcatcatga aagctgctgt ctttgcattc tttgtcttag cactatgcgc cgttgctatt 60  
 caagcttctc ctctagagga cactttgggt gcctttatgc ggggtggtta tcaatcgcaa 120  
 agccaagcac caaaacctag ctggtgcaag ttgaactgtc attataccca actttgtgaa 180  
 caagttatcg tccagactca acacgtcgtc caaactcagc acgtttacca aacataccaa 240  
 gtacagcaaa cacaacaagt ttcgtcagca tactgacgca atgaggtatc cagaggggga 300  
 tatggccaac agtctgtagc cccagctcct gcaccttcg tgtcagtgtt ccagtcaagt 360  
 gctgtattga ctgctcgtct tgctaccaat aagtttctca tcacgctcct cagcaagtat 420  
 ctcaac 426

<210> 2645  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-C8  
 <400> 2645

agaccccttt gtctttcggg agagagtgc aaggggttgc gctaccaaga cggcatgtct 60  
 atgcgctcgg gcgacacaga acgagaataa ctagggcaaa agacggaatg ccattcgata 120  
 aagagtaaac atgcgtgaca ctgggaatgc aacaaccgct gggtcgtctt ttgcatatcc 180  
 agccggctgt gtcgttgtct cctgcgagtt agctccggta taacaaggct accaagcctt 240

cttgcaatcg ttcaggcttt atgtcgattg atagttcaag tgtatttttg aaaaagagta 300  
 atacaaggac gacttggtt gcatcttctc gtttccttcg tgggttgcta ctgctgtaag 360  
 tgctcagga atactacagt gaaaccgaac caatcgagcg aggttttgct atgacagagt 420  
 gataagaacg tggac 435

<210> 2646  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-C9  
 <400> 2646

agcccacgcg tccgtctttt tcttggttggc ttggtccgac ttgcaaagag gatgatgaaa 60  
 cgagacaaga tcaagtcttg gtatctttcc cagtcttacc cagtggcggt acaaaataga 120  
 atcaccgaat gtcttgcttt attacaaaat caaccaaca atattccttg ctatatccaa 180  
 caatatggaa taccgaagt tgctggtttg cgtgctttga tatggaactg ttgcattgaa 240  
 aaattctttg cggtcgattc tactacctct ttgcacgttg cttgttcacc gtattgggaa 300  
 tcgatcgac aatatcagca acatccaacc gacgaccac tactggatag tagtaccacc 360  
 gagactgtcg tggaccatcc tctcaacc 389

<210> 2647  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-D1  
 <400> 2647

cgcgacgact cgttcaactt tcgcaaggca aactattttc tgggcgcttc gagttagttt 60  
 gtacttgatg gttttcatag ttactagaat tggaagtttg atcaaccgct tttatcagtt 120  
 gacgcacgag ggatattcac cctttggtct catggtgctc catgcagtta ctgagagttt 180  
 gcaaggtttt ctatttggac ttacttatat ttaccacgaa agagcactag gggaagttgt 240  
 tctattcatt cgtcgcaagt ggagtcgcag aggggatttt cgcgaggatt cttttatcgc 300  
 attagagaaa agaggacttg cccatttttc acaatttgat gaagacgagg aagaag 356

<210> 2648  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-D10  
 <400> 2648

agcccacgcg tccgagtcctg ctctgggttcg agttttgagg agaaggaacg ttgcaagtca 60  
 aagcaaccca ttctcgatat gctcttgga aattcggcag gtctgcatca aaatgttttc 120  
 cgtgactttt ctatgtggaa aagaaaagaa aggacattat atctcaaaga tgatctacca 180  
 gtgatggatt acaaattcat cttgatgagt tgggggtcaa cgatccatat gaaatgaagt 240  
 ctcaattatg gaaatgactt gccagggttaa tttcttagca ttcatttggc ttccttatac 300  
 tggaaaactc cgatggaaag tttgtggata aattcagtaa aaagtataac agcagaatac 360  
 tctaattggga aacatttgtc gaaatttgcg ttttg 395

<210> 2649  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-D11  
 <400> 2649

agcacatttg gcgggattcc gagagagtgc atgttgtag aacaaacgtt tgctgttgac 60  
 aagactttta cgtttttatc cttttcaatg tctgcagtgg aagtcttaca agtaaatgtt 120  
 ctaaataacc ctgggttctt tcgagaccgc ttttgttttg acataactta tgaagtgaga 180  
 gaagcggttac aacaagatat tgagtggaaa gtaatttatg tgagttgtgc caaagacgag 240  
 agtttgacc aagttttgga tgaagtactt cttccagcag atacggtggg tcgttttcag 300  
 tttacttttg aggtctcagc acccaatcca gacaaaatac ctagtgatga cttattgggt 360  
 attacggcag tattgattac ttgttcc 387

<210> 2650  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-D12

<400> 2650

agcccacgcy tccgaagttt cttggtctag gcagtctcgt atctgagcgt cgccatgaca 60  
atgaaaatac acttttggcg acagaattca cttttcagta ttctcagagc aggcaaaaca 120  
cccttttttag tacaatatcc atgctgcaga gttcgaatgt aataagaaaa atcgctcatt 180  
ttggcgccctg atcgaggctt gccatacgca tttcctcatc gctggaatgg aacatttcga 240  
gttatttttac tatggtgaga agaaggctgt ctgagtggcg acatttgtct tcaaaataat 300  
tttttgcgag aaaggaaaat aacgtgagag tataagtacg gccagaaga ggcatttcaa 360  
atgaaaacta agatggaata atacgtctac tag 393

<210> 2651

<211> 378

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-D7

<400> 2651

aggctactcct cgaaagctat ataagtagcg tatgcaggaa agaagaaggt aaaggaagag 60  
aaggaagaag cagagaggga ctatgagcga gaaggtggat agtcgagagg gaaaaagccc 120  
agaagccaag ataaggtatc aaagtaaaga aagaaggaaa aggagaagaa gagagggtag 180  
gcttagaagc agcaaaccag agaggaaagc gttaaagcat gaaagaaaag aaatccgaag 240  
aagaagagaa aaaggtgaaga aagaggaccg aatcagggtta agaggtagag gagcaagaag 300  
agaagagaga atgctgggtg gagtagcgaa acaagagaag ggaagtaaaa cgtaagaaag 360  
aggaaagggtt tacgagag 378

<210> 2652

<211> 421

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-D8

<400> 2652

aaaacaaact tgtggaggca gatgccatca tatttggatt tcctacacgc tttggtatga 60

tgtgtgctca aatgaaggct atgtttgact ctcttggaaca tttgtggcaa agcggtcagc 120  
 tggttgggaa acttgcggtt atctttgtat ccaccggtag tcaaggaggt ggacaagaaa 180  
 cgactgcttt aactgccatt actcagttgg cacacttggg aatgattttc gttccgacag 240  
 gttggaatat attggaata acttttcatg ttttgtgaat attggatagg atattcttat 300  
 ggcagtgata tgtttggttt aaaggagcct cagggaggtt ctgcttatgg tgcaggtacc 360  
 tttgcagggtg cagatggaag tcgacaacct tccgaatagc agttggctag agcaaaacat 420  
 c 421

<210> 2653  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-E11  
 <400> 2653

agcccacgcg tccggtcgta gtggtaaattg aacaccgaga gcaaaactgt caaacttgtg 60  
 agtagtgata atgaagtttt tgaagtagac acaagcattg tatccctttc tgaacaata 120  
 aaaaacgtct tggaagacac ggaggatata gagagcattc ccttgccata tgtggaagga 180  
 cgaattcttg caaagggtat cgagtattgt agatatcact cactcttaaa gaccattccg 240  
 cagtctgagg aggatattga gcgctgggat aggggaattcc taaatgtaga tcaaccaacc 300  
 ctttttcatt tgattctggc tgcaaaactat ttggatatca agagcttggt ggatttaact 360  
 tgtaaacgag tagcagatat gatcaaa 387

<210> 2654  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-E2  
 <400> 2654

cccaagcgtc cgttgttttt cgtaaaagtt ttcattcagc atggctccta aagggtgctaa 60  
 aagtgtaccc gttgcaggta aaaagccggt ggcaaaagtt gaaaggaaga aatcaaagaa 120  
 gaagagatcg gagacgtatt ccatttatat atacaagggt ctgaagcaag ttcattcctga 180



caccggaata tccgcaaagg ctatgagcat catgaattcc tttgtgaatg atatTTTTtga 240  
gagaattgCG tcagaagcta gcaaattagc tgcttattcg aaaagcaaga cgcttacttc 300  
gagagaggta caaactgccg ttcgtctttt gttaccagga gaacttgcaa aacacgctgt 360  
atcggaaggt acaaaagcag taacaaaata cacttcttct taacggtaca acaagtgtc 420  
aaaaggtggt tg 432

<210> 2655  
<211> 284  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E2-E4  
<400> 2655

gaccacgcgt caggactagt tcgagatcgt gaggggattt cggttgggcc taggcgcaat 60  
ggcaactcgt gtggaaaact tgcgcggtaa ggagaccatg aagagacctt gcaaaggggc 120  
ttttgtggct cctgcctttc aacaatggct tccaaacact ttaaaaagaa ctgccttttag 180  
caaggatgcc tgtttagag taagcctgaa gaagtgtttt tcgcgcacaa ctaccgtttt 240  
tcaaacgacc agtcactatt caagaactat cattatggcg gatt 284

<210> 2656  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E2-E5  
<400> 2656

agcacacatt catgtttgcc tttcagtaca gcttatgttc cagttctatt tatctaagga 60  
gagttgcatg gaagagtatc aattatcatg gttaccctcg agttatcgta cctaataata 120  
gggtaatctt tccaagaatt atctcaagtg ctgccgatag tagcagtgca aaggaagggtg 180  
tcaagaatat cggtgataat atcaaggaaa aaggttctga aatatacac tcagttgaag 240  
aaaatgtaaa gaaggagca gaaaaagtat cagaaaagggt tgatgaattc aaagacgctg 300  
tgcaggatag aatggaaaat gcagatactt ccaaagcaaa agacgtagca agagatgttg 360  
tagataaggt caaagatgct ggacaatccg taaaggaggg tgtctctgat ggcaaagaag 420

<210> 2657  
<211> 163  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-E8

<400> 2657

gacccaagcg tcagcccacg cgtctgtcca cgcgtcagta caacottggc cgcacttgta 60  
agtgaccaag gcgtcgaccc tggcaccatt atcctctatc accggtactc tcatatgggg 120  
ggagaaacac ttagagacct cttttcaggg ctaacctaaa gtc 163

<210> 2658  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-F10

<400> 2658

agcgggtggat ttccaggctt cgatggagag tcacccataa cgttttacga tatttgttgt 60  
ggaatccgag agacgataga tttgcttttt cctgcggatc aagtgcgaagt catagcagag 120  
cctgggcggtt attttgtttc atccgccttt actttggcta cgaggattat tgcccgtcgg 180  
tttcgaaccc aatcacagga aggagacggc agttgtctga aggcaggctt ttgtttgcaa 240  
gaagatatatt ctggttcgag tcttggtgct gattactatg ttgatgatgg tgtttatggt 300  
tcgtttcgag atgtgatatc tttgggtgtg gtattctatc ccaaaacgtt tagcagctct 360  
gacgacactg ctattgacta tgcacgtttt gttcgt 396

<210> 2659  
<211> 352  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-F11

<400> 2659

agcccaggcg tccggaacaa cttttgagca tcaatcaaaa ttctactgta tgctagttat 60  
gttaagtacc aagtttagcat acaagggttg cgcggagttt aatcacacat gtcggtgcta 120

cactcctgga aacaagctcc ctcaaggcat tgatgttccg gaaagaagta aagtgggtcat 180  
gcttcgtgac gaagatgttg aaagctatag tggtagtcgt atagtgtcag gttgaagaga 240  
ggcctatacg tcgacagaga atccaggtgc gaaggtcaat gagaatcacg tcctgaaaga 300  
catgggtgctg tcattggacc acatgagtct gaaaaggctg tcgtgagttg ga 352

<210> 2660  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E2-F12

<400> 2660  
ccggctcgac ccaagcgtag gccacgcgt ccgggtcgag tagtagagta agtgtaaaag 60  
ggaaaggaaa ggagagaaag aggaaaggga tgaaatgcag agatctctag agaaaggcaa 120  
gaaagaaaag aaaggaagac acagtaaattg aggcgagaaa gcataggaag tgaaacggat 180  
tacgaacccg tgtagtcgat gcagtaaaag aaagaatgag taagaaaaaa gggagtcatt 240  
ccaccagggg agtaaaggcg caggagagaa acccaaagca attgacggga atcggaaaaa 300  
gggggtggatc acgtaaaatta atccgatgta aaccgagaac cttacctctc caagaagggtg 360  
ttgcacggct gtcgaaagaa cgtgctgtga agtgagagaa cg 402

<210> 2661  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E2-F2

<400> 2661  
cccaagcgct cgcatTTTTTc tttgggagaa aacgacgtcg tcgactcatg gcacctaaga 60  
agacttcgaa agtagcacct cctcctgaag ctctggttaa aaaagaaaaa aaggagaaaa 120  
agaaagagaa aaaccctctt ttcgaaagca gacccaagaa ctttgggtatt ggtggagatg 180  
tacaacaaaa gagagatgtc tctcgttttg ttcgttatcc cagatatgtt cgtcttcaaa 240  
gacaacgaaa ggttctcatg tcgagactca aggtgccacc tgcgatccac cagtttacgc 300  
ataccttgga taaaaacgtt tccaaacagc tattccgctt gttaatgaaa tatagaccag 360

agtcgaggtt ggaaaagaga aagcgcctac gtgaaatggc agaagct

407

<210> 2662

<211> 443

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-F3

<400> 2662

ggctctagaat agcgggtcga ggcacgcgtc caccacgcg tccgcatttt tctttgggag 60  
aaaacgacgt cgtcgactca tggcacctaa gaagacttcg aaagtagcac ctctctctga 120  
agctctgggtt aaaaaagaaa aaaaggagaa aaagaaagag aaaaaccctc ttttcgaaag 180  
cagacccaag aactttggta ttggtggaga tgtacaacca aagagagatg tctctcgttt 240  
tgttcgttat ccagatatg ttcgtcttca aagacaacga aaggttctca tgcgagact 300  
caaggtgcc a cctgcgatcc accagtttac gcataccttg gataaaaacg tttccaaaca 360  
gctattccgc ttgttaatga aatatagacc agagtcgacg ttggaaaaga gaaagcgcct 420  
acgtgaaatg gcaaaagctc gag 443

<210> 2663

<211> 425

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-F4

<400> 2663

acgcgtcagg attactagtt ctgcatttga gccttcgaat atgatggcca aatgcgatcc 60  
aagacacgga aaatatatgg cttgctgttt aatgtaccgt ggtgacgtcg ttccaagga 120  
cgtgaacgca gctgttgctt ccatcaagac gaagcgtact attcaatttg tagactggtg 180  
tccaacagga ttcaagtgcg gtatcaacta tcaagctcca tctgtgattc ctgactcaga 240  
attggctaaa gttcaacgtg cagtctgcat gatttccaac agcactgcc a tctctgaagt 300  
ctttgccaga attgatcaca agtttgatct tatgtatgca aagagagcat ttgttcattg 360  
gtacgttgga gaaggtatgg aagaaggatga attttccgaa gcacgtgagg atcttgccgc 420  
tctcg 425

<210> 2664  
 <211> 346  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-F7

<400> 2664

accttgcggc actgacagtc ttcagaccac gcgacgcatt gtttgaatat ctgcccgatc 60  
 cacgtttgac ggtaacgata gtaggctcaa ccgatggctc cgaccgggta cggggaacta 120  
 gcggtacaat aatgaagtgt attggagaag ataaccacca tagcaccatg gaagcttgtg 180  
 cttggtacaa gacaaacat ggatgatatg ttaccgcgaa tctgcaagca ggcgagcaac 240  
 atggccactg aaaacacgtc caaacaaccg aaatcgact agagaatagc ggacgatgta 300  
 ccaggttgtg agaccagtg gagaggagtg cactaggtcg ttggag 346

<210> 2665  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-F8

<400> 2665

agcccacgcg tccgcccacg cgtccggcta aacgttgcc tttgctgatg tcctctagcg 60  
 aatatagtga ttccttttgt caagaaagat acttttttgc tttggtctgt gaatgtgttc 120  
 ctgatcgta gtctttatgc ttactacttt ttggtgaaag acgcgccagt cgccatgaga 180  
 attcgtggca tttggagtg agcataactt gcaacgaaa aaaaggtcaa gttttgaaca 240  
 agtaaaaggt ttttggttg gggtagttgg aagtaggcaa cggagatgat aatagaaagc 300  
 agtcgtcttt ttagctaaaa gaagaatgca ctaagtcaat gaagaaatat taggaagcaa 360  
 ctttacggaa gttatg 376

<210> 2666  
 <211> 167  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-G4

<400> 2666  
 tcagcgtcga actgcaccac tcattgttct gtctcgccct cgctgtacag cgatctttat 60  
 ggttggttag aagaactctg tttcctgcaa tatagaaagg tatgtagttc acaacctttg 120  
 tacttcatta tctaggttgc tacgcttagt tgtgatagaa tacctca 167

<210> 2667  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-H1

<400> 2667  
 agacgatgat gtatttgctc ccaccaatga atacgtcatt ggaactgccca atatgttacg 60  
 cttagtgttt caagatatatt atcctgtgaa catgcgcaag gaagaagatg aaggaacttt 120  
 gtttgggaga tttccagatg atatttatga tggctatact agtaacgttc caggaaatcc 180  
 gtggattcta tgtacttttag gaatggcgca atattattat gagttggcag cagagtgggt 240  
 gaaacatgaa aagattgtca taggaaagtg gagcaaagac tttttcagac atttgaggggt 300  
 tatgctctct ctttctctc ctcaatcttc tatatcaacg accattactg gaaaagcgat 360  
 ttgtagttat gtttctgctc tattagaaga aagagatcgc gtattgaatg ctattcgaaa 420  
 gcataca 427

<210> 2668  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-052-Q1-E2-H11

<400> 2668  
 agtgccttag ttgccattac tttgggacca cgtggagctt tcctttctac tcattccaat 60  
 ccttcctgta tagaaaagaa tatcgcttgt tttccttggt tgcgccagg aaaggccgtc 120  
 tttcgacca attttcaggc gaaaggcact atcaacgcag ttggagcagg agacacattt 180  
 acagcaggta tattagctat gcttctaaga caagcacatt cttcatcttt cctatctttg 240  
 gaattgttgg cagatgttgg attggctgct gctatgcaaa gaattgactc tggagtcgaa 300

ccaaaaaacac tgcaaaaact tgttatgcaa ctcgatgaga tgccccgtgc ttctgttcag 360  
tccctttgat catttgtaat aaatctt 387

<210> 2669  
<211> 328  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E2-H12  
<400> 2669

gaccaacgcy tcaacccacg cgtccgcgaa gtattcaatc ctccaaagaa gcctatgacg 60  
gatgatatca caggaaaagcc tctggtgaac cgttcggatg ataatccaga aactttaagg 120  
aagagattag aagcatttca taaaagtacg gatccggtga tccgtaatta tgagaagaaa 180  
ggtatttttaa gtcaaaaaaa tgcttcaaaa gaaatcgatt taagtatccc aacaagtgga 240  
gcaagctatt gaagaacgac aaaggactgc caatgcagcc tgaaagttgt tttgcaagta 300  
aaaagtgttg ttgttttttt gtgcgttt 328

<210> 2670  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-052-Q1-E2-H4  
<400> 2670

tccggaaaca ttggttgctt ggaataattg atttgagggt ggacggaaac actcgtgatt 60  
tggtacaaca ggctgcggat tacatcggtc gtaaagaata taaagtttcc gatataattc 120  
gaaaacgtct gtatgaaaaa gacacgaggt ttgcctttct ttctccaaag cggtcgcacc 180  
acgaagaaat agtaagagaa ctggaagaaa cagtacaaag actgggagcc aaaagaaagc 240  
ataaaacaca acacacctca gcgaaaagat atagaaaaac tacagaaacg gaagattatg 300  
gagacagact gtccacagtt tctatgggta ccttggcctc atatatgaac cgccacaagg 360  
aaagagtgcc ttatcaagta cttgatatgg aagaaatact 400

<210> 2671  
<211> 368

<212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-052-Q1-E2-H6

<400> 2671

agaaagcaag gaaaacagtc gcaacaaaac aggggaataa aaataaaca gaatgtgtgt 60  
 cccaagttgc tgatatttta atggacaagc agcaatgcga aatgctacaa gaacaagtga 120  
 aagaatactt gttacgttaa ctgggtcaaa acccggtgaa ctcaagggat gaccaggagt 180  
 tcccgagtct atcaaagacg atcgaatcct tggttcgaaa tccagctcct caaggtgaat 240  
 ccatcattct aataggacct gcaggctctg ggaagaagaa gctagtagag gaaattgtgc 300  
 agaaaatgaa atcagaaagc cagactcaac gtttgaaagt gattcaactg tacggaactt 360  
 ttcattgct 368

<210> 2672  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-A1

<400> 2672

cccacggctc cgcccacgcg tccgcccacg cgtccggcat gatgaagagc gctatgaagt 60  
 tctttgtatt tagcattatt ttggcaaagt ttgttcttac tattcaagca gcaacggttt 120  
 tggagacttt ggagtcactg aaatatacag agtatcttga catggtaaag gctgcaggcc 180  
 tggactcgaa gttcaacgac tctgctgtta catggactgt ttttgcagca aacactactg 240  
 gagtcaatgc caccttggca ccaatgcact tggttatttc taatatcaca tctaattgca 300  
 cggagagcat agacattgtg gaatatacgt tgtacaacca tactcttttg tcaaatgata 360  
 ataagacaag gagcacctat ccttaccgcc gtatacggaa tgaatttgac tgt 413

<210> 2673  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-A10

<400> 2673



gagccacgcg tcaatggaaa gaatcgctca agaaagagtt attctttgcg atatatcggt 60  
tctctggttg cggacgtaca tagaacttta ctttatggtg gtatatttgg ttatcctgga 120  
gataagaaga atcctaattg caagttgcga ctgctttatg aatgtgctcc gatgagttat 180  
ttgattgaac aagccggtgg aaaagctacc aacggaaaac aacgtatttt ggatatcggt 240  
ccaaacacga cccatgaacg acagcctctt attttaggtt cggaagaaga cgtcgatgag 300  
ttgatgcaac tctacgcagc caagttgcaa agtaaagtct agttgtgtct catggttgtg 360  
atga 364

<210> 2674  
<211> 365  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-A11  
<400> 2674

gcgtcaaccc aaacgtccgc atggacctat tgcagcacct acaccaccac tagcgtacca 60  
tctcaatgca gcaaggccgt gactacctat actcaaacct gctgtgctta tgcccaacaa 120  
acttcctatg cagtcagtac cgagcaatat gttcaggaaa ctgtatctgc tcaatatact 180  
tcttactacg gcgaatcatc ctccagctat tattaccgag cagctgctcc tcagagatgg 240  
tatgaggaac aatgcacctc atactgctgg gttccagtac agacctatga aacttatcaa 300  
tgttctcaag agaagaagaa ggagtacagc tatecttgtc aaacttatga gcaggtttca 360  
actac 365

<210> 2675  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-A3  
<400> 2675

ggcacgcgtc acgcttcata taaagcattc ccaacactgt tcgaaaaaat cactgcctaa 60  
tgcgtttggc aattgatcat gtaaactctc ccattgacag tcgaaacact cattgatggg 120  
acaaacttca acttgtgata caacattgag aagaagtacg actcagtttt gtcccaatac 180

aaatatactg gtccatgtca ttacatccgt acgatcaact tttgcttaag gggatcggtg 240  
 gcttgatgaa gaggagactt gggaggagaa tactcataat aataatgagg atgatgagga 300  
 tgatgggaaa gagtgcgaac aacaacaaga agaaaagcgt ttacgcaaga tggc 354

<210> 2676  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-A4  
 <400> 2676

cccaagcgtc cggaacaag cattggaaga aaagaatcta ggcaatgaat attataagaa 60  
 gaaacaattc caacaagcta tcgaacatta taacaaagct attgaattgg atccttggaa 120  
 tttatcttat cttacaaaca gagctgctgc ctatttagaa atgggcgagt tggatagttg 180  
 tattgaagac tgtcagaaaag cagtggattg gaacaaggaa tataacttga gaacagatta 240  
 taaaataatt gccagagctt atgcaagaat gggcaatgct tatgcaaaga aacaagatta 300  
 tgacaaagca atcgaatgtt atgagaaatc gctgttggaa tatcacgacg acaaagtata 360  
 ttcgaaaatg gtacgaaatg aagaaactca agaagaaatt ggaagaagag tcttatatcg 420  
 a 421

<210> 2677  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-A7  
 <400> 2677

aggccacaac caaacttttg tattgttttt gattgtgatg gtgtacttgt aaactcggaa 60  
 ccttattctt gtgagtcctt tcgacaagct attcttcgag ctactggcgt ggatatccca 120  
 cactgatttc caaacgacta ttttgaagtg tttgggtctat ctgtctattc ttccattgaa 180  
 tattatgtga aaaagggaat tctaccgaa aacacagata tcgatgggtg ggctagaaaa 240  
 gtgaatgagt tgaaggatcc aatatatgaa gaattagcaa gaggaaagtt atcaactttt 300  
 cctggattga aggctcttct tgaggaagct tgtgcgaaaa aggttgctct aggtgttggt 360

tcttccggga acacgggaaa agatccgatt caatctaaaa caagcaggca t 411

<210> 2678  
<211> 259  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-B11  
  
<400> 2678

gcgtcaaccc acacgtccgc tcacgcgtcc gctcaacgac gtagtgagac tctctcagat 60  
tctcttttga ttgttctatt catctcgtat tccctatcgt tgcagtagct aatcctgggg 120  
tcagtaaatac gtgcctctttt tctctcgagg gggatgaacac tctgatattg tgctgcttat 180  
ctctgggggga ggagaactga tagaacacca gctagactat ttatttttcc ggtctctaga 240  
ctttattcct ggtgaagga 259

<210> 2679  
<211> 142  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-B6  
  
<400> 2679

acccaagcgt cagccaactc accaagatga atttgtaatc catcactggt agatcatctt 60  
tgagatctaa ggtcctttct tttcttttct atatggaaaa ttcagggaga aatgggtttg 120  
tccagagctg ccgaattttc ca 142

<210> 2680  
<211> 60  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-B7  
  
<400> 2680

acccaagcgt cagcagacac gtagggtcag gaatattctc gaagaagatg caattaagtc 60

<210> 2681  
<211> 98

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-B8  
 <400> 2681  
 actcacgcgt cagcccacgc gtccgaaaaa aaatagaaag agaaaaaaag gagaaaaaaa 60  
 ataaaaaaa aaaaaaaaaa aaaaaaaaaa aagaagat 98

<210> 2682  
 <211> 238  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-C1  
 <400> 2682  
 gcgtcaaccc acgcgtccga cacacataaa gaagaatgtc gacgacgctt attgaaaaga 60  
 atgtggttca atgacttgag tacttttcca gtgacgtatt cggttcttct tttatgtgtc 120  
 attacttggc aataagatat gcctgttggc gactagttac cgagttgtta ctacgttggt 180  
 tattacttat caaggttggc cttatgatat cgttggttgc aactacgacg gagttggt 238

<210> 2683  
 <211> 275  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-C11  
 <400> 2683  
 cacgcgtcca cccaagcgtc cgcgcacgtc tccgcccatg cgtccggatg ctcattccag 60  
 gagatcgtca aagagcaacc agacttcgag ccacgagagc actcaggaag atggtctaga 120  
 ggatggtatt caaagcaata ccgtggagac cgatgtgtca cctccagggtg gtttaggcat 180  
 tgcgaatctc gactagttgg ctgaacacgc ggctcagagt ctcgtcctcc ctacgacgga 240  
 acgctctaga cagtcccacg catggaggcc gtgaa 275

<210> 2684  
 <211> 284  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-C12

<400> 2684

cacgcgtcag ggaaacgatg agaccgatga tcgggatgag ctgcagagat ctcccagaga 60  
agagcatgat ccgagcagac cggaagactc agtccatgag gccagagagc ctgataggtg 120  
agacggaggt cgaccccggtg ttctcggttg catcgaagtg ttaccgagtc gtagtttagg 180  
gagtctctcg ctcaggggac ttcgggcagc atgctgcacc cagtctcgcc tgacgtgaga 240  
cggaaaccgc ggtggattcc ctccattgat gcggtcaacc cggt 284

<210> 2685

<211> 424

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-C2

<400> 2685

gcgtcagaga gaagagagaa tgctgggtgg agtagcgaaa caagagaagg gaagtaaaag 60  
gtaagaaaga ggaaaggttt acgagagaag gaagtagaaa gaagagagtg taaggcggcg 120  
tcataataga aatccgaaag gagtagaaga aaagagagag aagaaagaaa agaagagaaa 180  
agccgtactg aagaccgaca cagggtactcg aggagaaagg agacccaa ataggtgaga 240  
gaatggacga taaggaacta ggcaaaagga tatggtatct gcggtagaac atatgaaaga 300  
agcagcaccg actgttttagc aaaaacacag cactctgcag aaaagagaaa atgtaaagta 360  
tagagtgtcc ggcttgccaa atattagaga agaaatcgat gaaagtga gcgagtaaaa 420  
gatg 424

<210> 2686

<211> 325

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-C3

<400> 2686

gcgtcagccc aagcgtccgg tgatcgcgac ggagaaacgt atgccgtcca ttcttatgga 60  
aagtcatact ttagaaaaga tatcttttat ttcggaaact acaggaatgg tgtattcggg 120

tatgggtcct gattcaagag tattattgag aaaggctcga aagtttgctc aaagttacta 180  
tcaaacctat aaagagccca taccagtcgt tcaacttgta cgagaaacag ctttcgttat 240  
gcaagaattc acccaatctg gtggcgtaag gccttttggt gttagtttgt tgatagctgg 300  
ttgcgatgaa caaggaccac acctg 325

<210> 2687  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-C6  
<400> 2687

aggtggggttg tggagtaagt gcgcttggca gcaaactaaa agatggcaag aagaatcatc 60  
ggagcttata tgtctgacgc tactgtageg tctctattta gcgtgaaaat gttgttctac 120  
cttacaatac ttgcgttctc tatcactatt gtgggtctta tgggtaagag ttccgacggt 180  
atttgggttc acagtgttcc agcgaaagac gaatattgtg catacaagtc ttcccttcaa 240  
gtaaaccacc acggcatagc ttctatttgc aagtatatca tggctgtagc agctattgggt 300  
ttggttatca gcttcttcga gttttgggtat gcattcctcg gaattttctt caagtggcaa 360  
caaaagttgt ggtatattga atctgctatc aacgtgtttt tctgggcttg gtgggt 416

<210> 2688  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-C7  
<400> 2688

aggtggggttg tggagtaagt gcgcttggca gcaaactaaa agatggcaag aagaatcatc 60  
ggagcttata tgtctgacgc tactgtageg tctctattta gcgtgaaaat gttgttctac 120  
cttacaatac ttgcgttctc tatcactatt gtgggtctta tgggtaagag ttccgacggt 180  
atttgggttc acagtgttcc agcgaaagac gaatattgtg catacaagtc ttcccttcaa 240  
gtaaaccacc acggcatagc ttctatttgc aagtatatca tggctgtagc agctattgggt 300  
ttggttatca gcttcttcga gttttgggtat gcattcctcg gaagtctcgt caagtgg 357

<210> 2689  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E1-C8  
  
 <400> 2689  
  
 agcccacgcg tccgcccacg cgtccgaaat attcgtagaa tggaacaaat attgttggag 60  
 agtcaaaaca aagcgcttgg acaggtgaaa aagggagcct tgtctataag gtcgttgaac 120  
 cacgtttcct tttctgtacc cgaaccagtg aagacgggca agttcttttg cgagattctt 180  
 ggcttttcgag tggttcgacg acccaacttc aattttgacg gtatatgggt gtacagttat 240  
 ggtattcaaa tacaccttat cgaaggtgct gctctcgaaa gaccaaatat cttgaaacca 300  
 aacacagacc atatatcttt cgaagcggat gacctcaca gtatacagaa taaattggac 360  
 actttaaata atccgtatct tttggagtat cacgaacggg agaacttgag acag 414

<210> 2690  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E1-D1  
  
 <400> 2690  
  
 cgacacgggt ttcttgtcct ctaagcggtt gcctttgcat cgttgtggga agaacacaac 60  
 aaccttccca agccgccact ttccaaaatt ccgccaacca ataagaccaa gattggaatc 120  
 caaggccaaa tgggtgaacaa gtttggcaaa agatatgaac cccaaggaca gagaacaagc 180  
 caccatccct tcgggggaaa ataagttggt gaaaactccc caagttgcca actttgaaga 240  
 tatgggatat aaata 255

<210> 2691  
 <211> 329  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E1-D11  
  
 <400> 2691

atagatacgc ctaactgtag ttcacgattg atattgctgt cttgtttggt ctttataacg 60  
 actataactt tggtaaatgc acaacgaaac tattataaag tgctgggcgt ggaaaagaac 120  
 gcttccgaga gtatgtgggt tagcgttcat tctccaagtt tctttgactt ttgttacgag 180  
 aaattaagcg cgcgtatcat caactagcaa ggaagtatca cccggacaag aacggcggtg 240  
 acaaccacgc ggaactgaca tttcgagaaa tatctgaagg taagtgtgg taacatgttg 300  
 gcttctgct tcttttattc cagttgttt 329

<210> 2692  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-D12  
 <400> 2692

aggtgagcga aattcacttc cttagtaact atgcgatgtt aattttgagt ttcacattta 60  
 taggaaattt ctctaaaatt gacgattttc ttttattttt ttaaagttgt ttaaaaataa 120  
 tttcaacagg tatccaaggt tctttttata gttcttgtga tttgccgtac ttgggtggga 180  
 ttggtttatg cgaggggcgt ctgttttatt cgatgcccg tcccaagttc ctcgctcagc 240  
 tccttattgt gggcgggtaca tacttatttc gtgcgtttct tgaagcttac aagcaagctc 300  
 tgtacaacgc tcaagtaaga agcactgcag cgggagcagc aagtcaagtt tttcgtgaag 360  
 aaggaaaaat gtccgtcgaa gaagcttgta atat 394

<210> 2693  
 <211> 256  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-D3  
 <400> 2693

cgcgtcaggg gcagcgtctg cacatcctcc agacatttgc ctttggatcg ttgaagcagc 60  
 ctgtacaatc gctttcataa tctacggatt acgattctca ttgcagctaa ttagacggaa 120  
 ggtaggattc agagcctcaa tattaatcag gtgtagcaaa agatagttcc accaagaaca 180  
 ctgaccaaga cagcattctt tcaagagatt attatgtgtg ccaaactccc agattcgtcc 240



cagttaaaca caaggc

256

<210> 2694  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-D5  
  
<400> 2694

agaaagaagc caattcgagg tggaatacct ctgtgttttc cacagtttgg tccttatggt 60  
tccctagcac aacacggatt tgcacgcaac tctatgtggc acttgaaaca aataggtaca 120  
acgaaagatg gctcagccac tggagtcgtg ttgtctttat cttcaaaaga tgtggatgct 180  
gcatggacct ctgctgtggc ttacgctttt actgcccaat atcagttggt attaggggtt 240  
caaggtctac aaaccaatct ctgggtacga aatgaaggag aggagtcctt ttctttcacg 300  
tttgcctttc acaactatct tgatgtatct gacgtctcta gttgtcaagt atttggattg 360  
gaaaataatc cctaataaga atcgtcaaaa gaatgacgag tggaatgaac ga 412

<210> 2695  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-D6  
  
<400> 2695

gcaatatgcc tagtcataag gaacaaaata aaggaattaa aatatcagct gacggttacg 60  
cactaaagtt gagcggattt cggttgacg tagacggcag tttggtcact atggtggacg 120  
cagacgacct cagagccctc atgtttaagg aaagcctcaa ggaaaagtca aagctgcatg 180  
acccaaaatt tttcaaaagc tattatgagg agaataagga ctacttttat tatatgactc 240  
atacggagaa gaaaatgttt ctttctctgg aagttgcacg agaatacgt actctggtgg 300  
gaaactcgtt tctgcagaaa tatttggaca aagtcattga gcacgaacac gcatactaaa 360  
ggaaccaacg ttgttgccga taatttgccg tggtttgtct gtttgcgttc tgttggg 417

<210> 2696  
<211> 410

<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-D7  
  
<400> 2696

aggcagctta caaatgtgag gaagccactt ccgacatttt gcgtgatatt gccaaaggaaa 60  
cgtccaaaat gttgcgaagt ttagaagaag gagaaaaaat ttccaacctc gggtccaagt 120  
ttcgagactt gggtcaccaa tgtttgagta gggtcgacag tgcagtttct gatgtgaatt 180  
ccagtgtctt ggtgtcacga aaacgaagag aacttgaagc aatcattgac acctcattaa 240  
atgctgtctt tgtgaaacaa ctgcagggtt tacgtgagaa tgctttgtcg cagttcaagg 300  
cttccttatt ttcggaagag gttccgagcg attttgcgtt ctttactgcc gacagtatgt 360  
ttgttcgaaa agcgggaagga cccaattcgt cctggaagtg attggtcgta 410

<210> 2697  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-053-Q1-E1-D8  
  
<400> 2697

agccccacgcg tccgccccacg cgtccggaat ggacgataag gaactaggca aaaggatatg 60  
gtatctgcgg tagaacatat gaaagaagca gcaccgactg tttagcaaaa acacagcact 120  
ctgcagaaaa gagaaaatgt aaagtataga gtgtgcggcc tgccaaatag tagagaagaa 180  
atcgatgaaa gtgaaagcga gtaaaagatg aggtatagag aatggcggtc ctaactgtaa 240  
ggatccaaag gtagcgaagt aaatagacgt ttgaaaggcg tccagtatga aaggagaaac 300  
gagtgtagca ctgtctagtc gtccaactca gcgaaacagc aataactgtg aaaatgcagt 360  
aaacgaacag tacgacggan agaccgcata attcttgact agatagggtt agggaggaga 420

<210> 2698  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E1-D9

<400> 2698

gtggaaatat cccatcagct ttccaacctt ctccacgcgg tatacgagtg cgaatatacc 60  
gaggtggagt ggctaccttg ggtttgttgt tcagacactg tcgaaaacgc aatagtatgg 120  
gaagacatac tggtgcttca aggcgcctaaa ctgctggata tttatgctga aggattacaa 180  
ctgttcaaca agtttcgtcg tcacctgatg aacgtgtcct ttgtgggaga cagcaaaacta 240  
tgggattcac tatctcgttt ctgtctgttt atccaaccga gtcattctac ttgttggaac 300  
tttcgaaagt ttctcgttca acaccatcac gcttcctatc ttatggagct aaaagtgagt 360  
gaaattgcct t 371

<210> 2699

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-E11

<400> 2699

accacgcgt ccgtaggttgt ggaacaaaag tggatcaaga aaggatgact tatggttttg 60  
ttggcgctag ttcttgttcc tggttggttt accgcaatcc tcgcaacttg gctaaatgct 120  
tcccaacaaa ggaacataaa attttccgtc gcgctaccac acacacgtgt aaaactacta 180  
tactggcggt agacaagtcg tcttcttcaa ctagtaatgt tggcaagaca gaacaaagca 240  
agccttttga accgaagaag agtgaagagg caaattcctt tcaacagtcc ttttctagca 300  
tgcttcgat gcaaaataac tggttttcag atccttccaa gttcaacgcc aaagtacaag 360  
atgtagctca agacatactc catagaccta ctttc 395

<210> 2700

<211> 347

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-E12

<400> 2700

ccacgcgtca gggaaaaaaa tggtaattta gttgaaatca attactctgg aacgtttcac 60  
aaacgttcag caagagcaaa caattatgtc agttttctgc atcttctgaa agggcaagaa 120

atccacaaca cttgcgcttt tctcggcata tgccttgag atatatcttt cggcctgtgt 180  
ctccacttta ccaaagcatt cagaggccga ctccttgag atgtttccta tgtaatttat 240  
gcatagtacg tactacaaag gatttgtcag tactatgttg atgaaaataa ggaaaagagt 300  
ctgtctcctt gttcagagct attgtgtttg gcgtgcacga actgtcc 347

<210> 2701  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-E2  
<400> 2701

gcgtcagga aaaagaagga aagaatagtg agtttgtaca acaatggcca gtgatccatc 60  
gttgttttgc ttggaagaga gtagaggaag tcattcaagc gttaaagaca gagaccgaag 120  
caactgcaga ttctacaagc aagtttgcac aacaagcctt ggaacagata ttgaaagggt 180  
ctccaacgag tctcaaagta actttggagt ccatcgaaca agcttcaaag atgacattga 240  
agcacacctt acagaaggat ttccgtatgt cgatgcactt tatgaaagggt cacgactttt 300  
atgaaggcat tcgagcaact ttggtagata cgggtagaaa ccctaaatg 349

<210> 2702  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-E3  
<400> 2702

agagaaagag gaaagggatg aaatgcagag atctctagag aaaggcaaga aagaaaagaa 60  
aggaagacac agtaaagtg gcgagaaagc ataggaagtg aaacggatta ggaacccgtg 120  
tagtctatgc agtaaaagaa agaagtgagta agaaaaaagg gagtcattcc accaggggag 180  
taaaggcgca agaaagaaac ccaaagcaat tgacgggaat cggaaaaagg ggtggatcac 240  
gtaaattaat ccgataaacc gagaacctta cctctccaag aaggtgttgc acggctgtcg 300  
aaagaacgtg ctgtgaagtg agagaacgta cgagaaagcc aagtgaggga aaagagggaa 360  
gttaaagggc ggccccagaa aggagagggc gtaagacgtg atacagagta ggaagaaa 418

<210> 2703  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E1-E4  
  
 <400> 2703  
  
 acgcgtcagc ccaaacgtcc gcttggatga aatgcgcaag atgtctagca aaaagtcaat 60  
 cggcttgttc aaggtcatga gtgaataatg tcactaggtc atatgatgta attccgatta 120  
 tcataccagt gtaggctatg cacatagggc gaaataatga cgtacaagtt taacggagtc 180  
 attccaccag gggagtcaat gcgcaagaaa gaaacccaaa gcaattgacg ggaatcggaa 240  
 aaaggggtgg atcacgtaaa ttaatccgat aaaccgagaa ccttacctct ccaagaaggt 300  
 gttgcacggc tgtcgaaata acgtgct 327

<210> 2704  
 <211> 351  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E1-E5  
  
 <400> 2704  
  
 agttgggttg tccactggtc atggaggaag aagcggttatt caagtaagca ggttgcctg 60  
 tggttgtgat atcacagaaa atttctagtt atgtgaatca acattcggaa gaatatatac 120  
 accgtttgag ggaagccgtt gctctggatt cagttagttc ggatcccaat aaacgctcgc 180  
 gttgcttggg tatggccaac tatatttgca aatggatcga aaaattggga ggaaagccta 240  
 ttgtaaagca tataggcaaa caaacgtttc ctgatggcca agttttggac taccctcaca 300  
 tcctatttgg agactttact gtggacacca gggagaaacc agtgctcttg g 351

<210> 2705  
 <211> 363  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E1-E6  
  
 <400> 2705

aggacagagc tgccacagag ctacttgtga agactgccct cgaagagcac ggactgaact 60  
 ttgatccctt agatacggac aaggacctgg tatatcctga gaaatattat gagccttgtg 120  
 gaggcgaaat gtggatcctt gaaaaggata acacagtggg tggctgtgct gcctttttgc 180  
 ctattcctga tacgtgtgcg gtagagtttc gaaagatgta cttttctcct agcataagag 240  
 gcaacggtta tggaaagcta atacttggag ctttagagta tcgagccttt gagttgggat 300  
 acacataggg tagattggaa acgtcgcacc ttttagaagc tgcttgcaag ctttacgaca 360  
 aga 363

<210> 2706  
 <211> 87  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-E7  
 <400> 2706

agcgtcaaga cagacctgcc aaagagctac gtttgaagac tgcccgcgaa aatcacccgac 60  
 tgcgctttga tcccctagat agcgaga 87

<210> 2707  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-053-Q1-E1-E8  
 <400> 2707

agaatggagt ggagaaggaa gaggagacac tagtccaagt tcggatccat taacttttac 60  
 caaactttat gtgggttcta ttcacttttc tattagtga gaagatttac gcactatttt 120  
 tgagcctttt ggggaagtcg tttccttgca gcttcacaag gaccctgaaa cgggacgttc 180  
 acgaggtttt ggttttgttc aatacagaaa ccacgaagat gcgaaaaagg cattggaaca 240  
 attgaatgga cttgatcttg ctggtaggcc tttaaagggtt ggtttggcaa ctgcagagac 300  
 tcagaaactt caagtaatgg gtgctattcc ttcgggaggtt cctagtacaa tagctgcgaa 360  
 gagcttatca ngtaggggtt atagtgcata tattagtgan atggatg 407

<210> 2708  
<211> 346  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-F11

<400> 2708

ccacgcgtca aggacacgtt cggggtgaga ttggagatcc attcgtcgag gcttcggccc 60  
gtgacctaag gtcgtgacca gttataatat atttagtgca tagtaaacc tgtgtcgtgt 120  
gcgcgggtcc catgtcttat catagagatt gcgatcagta ttgggcttat gctaacctgt 180  
gacttggtag atcgcttggt gcagcttgta gactccgagg taataatcct tcaactctctc 240  
cagtcggttg aacaccacct caatatctca tcaccccat agtcgccttg tgttactgag 300  
aacaccccca cagtggactc ctgtatcgag aaaactgggtg acgacg 346

<210> 2709  
<211> 242  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-F12

<400> 2709

gcgtccaccc tcacgttcgg gggtacattg ggctccact gatcgtggct gcgccccgtg 60  
tcctagggtc gtggccagct ctactagttt cactggatac tacgaccaat gtcccgtgcy 120  
cgggtcccat ggcttttcct ggacgttgcy ttcagtatcg tgatgaccc gccctggcat 180  
ttgtgagaga gcctgaagca gaatgtggaa cacgaggac gagtccgtcg ctgcgtccag 240  
tc 242

<210> 2710  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E1-F3

<400> 2710

cgctcaggt taacagagac aacatcgaag taatagaact ggtaagtga gtaatcatga 60  
atcatatcaa cgaaggaatg gagaatatac cgaacgatta catgaaggac gagatactac 120

gagaaatgat aaggtggata tatatatcga taataagtgt gacagtaata tacacgagga 180  
gaaagacagg aaagaggtgt atgatgcacg caaagaagtg acgcactaga tcagagagta 240  
acacatgcac gtacgtaaag ccaacgggtg actcaagacg tgtgaaagag tggaacaaca 300  
tgaaagcaca caagaatgta cgacatgggt acagtcacca c 341

<210> 2711  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E1-G1  
<400> 2711

aggacaatgg ttgcaaagac tgctctgagt tgctctcttc tctctttcct tctcgtgcc 60  
gcagttgcag ccgacgtagt ttcagaggag agatggggat atgctcagca aacccaacaa 120  
cagcaacagt gccacaagt atgtaaacag tatgcatact atcagagtcc agtctgcact 180  
tccgtaacca cacagagccc atactggacc caatgctcga agactgtgca aacctttgtc 240  
ccaagccagt gcagtactta tacccaatct cctacatgga cctattgcag cacctacacc 300  
accactagcg taccatctca atgcagcaag gccgtgacta cctatactca aacctgctgt 360  
gcttatgccc acaaaacttc ctatgcagtc agtaccgagc aatatgttca ggaaac 416

<210> 2712  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-053-Q1-E1-G12  
<400> 2712

catctacaga gagtagcaat acgaaccgac aacctttcct cggcttgcc tcttctcagt 60  
ccgtttcagg ctttccatat ttaagatctt ttttgattgt tattgttgct attctggtga 120  
cctcttttct ctctggaag cagcaaaaa cagtccacaa ggatgctccg ttattgacaa 180  
gctcttattg cagaagcttc tctgggccta gctttccttt cgtattgcgt tctacaagag 240  
tagtgacgga taaaggtatt tatattgtct tgtttgcttg tctaagtttt cgtcgttagg 300



aactttttccc gcttccatat ttgtcgatag cgctgggtttc atctcgagag tagttcctgg 360  
 ttggttgaa gactcgactt ggggttgtct tcatgatgta ngaaatctgg t 411

<210> 2713  
 <211> 126  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-G2  
 <400> 2713

gcgtcagtga aacaaacttt gcgaacgggt gtaggagtcg atacgacaca cacaggagta 60  
 tgctttcctg ttttgtatac tgaattgagt atacctagtg tagaatcact tagagaagaa 120  
 cgccgg 126

<210> 2714  
 <211> 288  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-G6  
 <400> 2714

agcggacgcg tgggcggacg cgtgggcgga cgctggggcg aggatcgaat gcagacgctg 60  
 tagttttgtg attgtttcgt gttttgtcaa gcttgtctca gtaataaaaa gtgacatttt 120  
 tagttgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaagg aaggcagcaa aaaaggataa 240  
 aaaacttacg ttaacgtgaa tgaaaattta aaaagctttt ttaaaggg 288

<210> 2715  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-053-Q1-E1-H3  
 <400> 2715

agcccacgcg tccggggcaa ccaactacca ccaaagtag caactgcaag gaagaacaga 60  
 gtgtcctaaa gaatagcaag ttgtgatgag gagaattggg agcaaactct tgtcttattc 120

cggcaatgaa gtaaaacttc gggatgttgt ttcttctcta agggagacga gtaaagcgac 180  
 ggggtcttcc atccggagtt ggcttcgtga tatcaaccag tggatgaag acacttacta 240  
 taaaaaggga aaggtggatc ctttggta tttatgtta ctttgttttg gaggggata 300  
 taccatcaat tactccata tcaaacataa agtggagcat aagaatgacg atattgaaag 360  
 cttgttaaag tcancnttgt tgtgttggg tgatggctga cgcatagttg gtgatat 417

<210> 2716  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-H6  
 <400> 2716

agccaaaagt ttcaaactgt gttgttatga ctatgccatt ttgctttgta tttgatacga 60  
 cttttaagtt ttcaaaaatt ccttatcgaa ggtcttctac cgacctatgt aaacccaagc 120  
 accgttcgtc tccattgaaa cacaataccc aagcggctctt cttcaaggag accgaaaaga 180  
 caaagtctac agaacctgtt aatgttacca gcgctcccaa ctcaaactca aagtcgggtca 240  
 catttgacgg acagttgaat aagtctgctt ctaatacatc tccacgaacc aatatatctc 300  
 tggactctgc aaagttaaag gaggactctt cgaagtttct caacgatatt tctttgcgac 360  
 ccgggttcta cgggtcaactg gcactagctg gtctagttgg aatcatttgc atacagataa 420

<210> 2717  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E1-H8  
 <400> 2717

agcggacgcg tgggcggacc catgggctga cgcatagttg gataatggaa taatcgcgga 60  
 tgcaaagcgc tctcggaggc gtatgcacag ggatagccag aaaactagcg aggaattctt 120  
 aaatctcaag gaggatgtga aggagtagtg taaataagcg cagggtgcta tttgagtagt 180  
 aaaatgtaaa ccgcgtgtct tttgcatcat gtcacagcta gtgatagggtg aagcagatag 240  
 cattggctca gacgtagcca tgtaacaccc gatactactt gatcttatgc tgtccaaacg 300

acgtaaagct ggaccagtat ctgtgagaac agatttggca gagatggcat aatgggt 357

<210> 2718  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-A10  
 <400> 2718

atggaaagaa tcgctcagga aagagttatt ctttgcgata tatcggttct ctggttgcg 60  
 acgtacatag aactttactt tatggtggta tatttggta tcctggagat aagaagaatc 120  
 ctaatggcaa gttgcgactg ctttatgaat gtgctccgat gagttatttg attgaacaag 180  
 ccggtggaaa agctaccaac ggaaaacaac gtattttgga tatcgttcca aacacgaccc 240  
 atgaacgaca gcctcttatt ttaggttcgg aagaagacgt cgatgagttg atgcaactct 300  
 acgcagccaa gttgcaaagt aaagtctagt tgtgtctctt ggttgatg 350

<210> 2719  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-A11  
 <400> 2719

ctgcccacgc gtccgcatgg acctattgca gcacctacac caccactagc gtaccatctc 60  
 aatgcagcaa ggccgtgact acctatactc aaacctgctg tgcttatgcc caacaaactt 120  
 cctatgcagt cagtaccgag caatatgttc aggaaactgt atctgctcaa tatacttctt 180  
 actacggcga atcatcctcc agctattatt accgagcagc tgctcctcag agatgggatg 240  
 aggaacaatg cacctcatac tgctgggttc cagtacagac ctatgaaact tatcaatggt 300  
 ctcaagagaa gaagaaggag tacagctatc cttgtcaaac ttatgagcag gtttcaacta 360  
 cttaccagtg tggtcagtac gagtcccaac aagtttacta ccaatgccaa aa 412

<210> 2720  
 <211> 338  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-A2

<400> 2720

acgcgtcaac actatcgaca atggatgcga caacggcatc aacagtggat gcaaaatgaa 60  
gaagaagaat cgacagaaaa tcatcatggc aagccttggc aacgtcgaaa gacggcagat 120  
agtagtaata gtagtagtag taacaatagt agcactagtc aaaaagggtcc tagtacgagt 180  
gttttgggac atgttgttgc atccgatggc caagcaaaga aaagagggga ttgttgggtt 240  
gatgaagaag agacttggga agagaatact cataataata atgaagatga tgacgatgaa 300  
tggaaagagt ctgaacaaca accagaagaa aagcgttt 338

<210> 2721

<211> 208

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-A3

<400> 2721

tcaaccacg cgttcgcaac actgttcgaa aaaaacactg cctattgcgt ttggcagttg 60  
ttctgtaaat ctctccattg agagtcgaaa gactcgttgt tgtagcatc ttcaacttgt 120  
gataacaat tgggaggaag tgcgcctaag ttttgcacg aaaataacat acaagtcctg 180  
gtcataatac gtgtgtagca agcgtttg 208

<210> 2722

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-053-Q1-E2-A6

<400> 2722

aggaggaagt attcaacaag gcagcggaag aagtaaaaaa actgtcttcg gcatccaacg 60  
aagacaaact ggagctatat ggttacttta aacaagccaa ggaggggtgat tgctccaccg 120  
aaaaacaaa aggtctttttt aatcaaaaag aaaaagcaaa gtgggacgcc tggaattcca 180  
aaaaaggat ttccaaagaa gaagcacaga aaaagtatat cgaaaaggtc gatcaactat 240

gcggcagcga gtttcttcaa agcgtttcct agtcacctta ggtccttgct ctttttttgg 300  
 tttgtcggtc ctaattccca aaaaatatga gtaaagtacc cgtttttttc cgcaaaaaaa 360  
 aaaaataaaa cagaaaaaga aaccaatgta atctaataca taaaanaaan aatgaataag 420

<210> 2723  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-A7

<400> 2723

aggccacaac caaacttttg tattgttttt gattgtgatg gtgtacttgt aaactcggaa 60  
 ccttattctt gtgagtcctt tcgacaagct attcttcgag ctagtggcgt ggatatccca 120  
 cacgagtttc caaacgacta ttttgaagtg tttgggtctat ctgtctattc ttccattgaa 180  
 tattatgtga aaaaggggaat tctacccgaa aacacagata tcgatgggtg ggctagaaaa 240  
 gtgaatgagt tgaaggatcc aatatatgaa gaattagcaa gaggaaagtt atcaactttt 300  
 cctggattga aggctcttct tgaggaagct tgtgcgaaaa aggttgctct aggtgttggt 360  
 tcttctggaa caccggagaa gattcgaatc aatctaaaac aagcaggcaa tccttcccaa 420  
 ttc 423

<210> 2724  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-A8

<400> 2724

agcccacgcg tccggtttga ttgggctgtg gaagcagttg tagacttttt catgatgtgg 60  
 tgggtggtctg ctggtgcttt gagtgtgatg ataccgaaac ctactgcctt gtttcagcgg 120  
 agatatgggtt ttggtttgga agttagtatg attgcagcct ttacctgggt gaactttggt 180  
 tttcacttta tcgaagtcta tttgtctatt ttgacgatat atgttgata gcgcaagcta 240  
 gtccatactg aagaagatga agacgctgac tatgagggcg ctgatgctca ttcggttttg 300  
 tcggaaagga gtccctacaa gtctgtttgt gtgtgtgtgt ggtctcgaca tgtggtggta 360

cttc

364

<210> 2725  
<211> 87  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E2-B11  
  
<400> 2725

cgctcatgcg tccgctcaac gacgtactga gactcactca ttttctcttt gttttgtctt 60  
ttgtggctgt cctcctcgtc gctcacg 87

<210> 2726  
<211> 223  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-053-Q1-E2-B2  
  
<400> 2726

acgcaatata tcaacaagtg acagctgcac attagtaaag cgaacgggtg agttaagatg 60  
cgtgaacaag tgacggaata tatcacacag aaagattaag aaatgggttag agtaciaaagc 120  
ataaggtagt aaaagcagga atctgatatg agganagcca cattggcact gacattatgc 180  
ccaaacatca cacgtcatca ctggggaaca ttgggcaatg tac 223

<210> 2727  
<211> 184  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-053-Q1-E2-B4  
  
<400> 2727

acgcgtcaac aaggactttg tactccttgt tacttgttgc ccggtgcaag ataagctcgt 60  
tgaaaagtac tggctcccga gtatagaatc gtacgcggaa tagccggctc caacagcgga 120  
acacacaacc aaaatagttt attggcgtgt cttggaattt ggtcaaaaag gcctgtacgc 180  
gaca 184

<210> 2728  
 <211> 100  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-B6  
 <400> 2728  
 gtcaaccaac tcaccaagat gaacttgtaa tccatcactg gcagatcatc tttccgatct 60  
 aacgtccatt cttttcttat ccacaaacaa aactctcgga 100

<210> 2729  
 <211> 72  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-B8  
 <400> 2729  
 gacccaaacg tcagcccacg cgtctgaaga aactaacaaa aaaagaaaac cgaaacccaa 60  
 tcgcacaaac aa 72

<210> 2730  
 <211> 444  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-C10  
 <400> 2730  
 ggtcgagcac ggtccaccc acacgtccgc ccacgcgtcc gccacgcgt ccggatgctc 60  
 attccaagag atcgtccaaa agcaacaaaa cttcgagcca agagagcaac gaggaagatg 120  
 gtggagaaga tggattcaa agcaatactg tggagaccga ggtgttacct ccaggtgggt 180  
 taggcaatgc taatctcgat gagttggctg aaaatgctgc aaagagtctc gtcataagta 240  
 ggacggaaag cgccaaacag tccaagatg gaggcggtga agcggatgaa aacttggaa 300  
 ggtgtgcgga cacatcaaaa gaagcaatta aggcaaggca agcggaaagct gcagcagctg 360  
 caaaggttttt ggaaggtttg acggattcga agaagaagaa gaacgtcaat gttcctgtgg 420  
 agaatgacaa ggaagtggaa aaag 444

<210> 2731  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-053-Q1-E2-C12

<400> 2731

cgtccaggaa aagagagaaa gaggaaaggg atgaaatgca gagatctcta gagaaaggca 60  
agaaagaaaa gaaaggaaga cacagtaaatt gaggcgagaa agcatangaa gtgaaacgga 120  
ttaggaaccc gtgtagtcta tgcagtaaaa gaaagaatga gtaagaaaaa agggagtcatt 180  
tccaccaggg gagtaaaggc gcaagaaaga aacccaaagc aattgacggg aatcggaanaa 240  
aggggtggat cacgtaaatt aatccgatat aaaccgagaa ccttacctct ccaagaaggc 300  
gttgacacggc tgtcgaaaga acgtgctgtg aagtgcgaga acgtacgaga aagccaagtg 360  
aggaaaagaa ggcaagtaga gggcgggccc agaaagagga aagggatgaa atgcagagat 420  
ctct 424

<210> 2732  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-C3

<400> 2732

acgcgtcagc ccaagcgtcc ggtgatcgcg acggagaaac gtatgccgtc cattcttatg 60  
gaaagtcata ctttagaaga gatattcttt agttcggaaa ctacaggaat ggtgtagtcg 120  
ggtatgggtc ctgattcaag agtattagtg agaaatgctc gaaagtttgc tcaaagttac 180  
tatcatacct atcaagagcc catatcactc gttcaacttg tacgacaaac agcgttcggt 240  
atgcgagaaat tcacccaatc tggcggcgta aggccttttg gtgtaaattt gttgatagct 300  
ggttgccatt tttttggacc acacctgtat caggctcgat ctagtggaat ctcc 354

<210> 2733  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-053-Q1-E2-C6

<400> 2733

gtgggttggtg gagtaagtgc gcttggcagc aaactaaaag atggcaagaa gaatcatcgg 60  
agcttatatg tctgacgcta ctgtagcgtc tctatttagc gtgaaaatgt tgttctacct 120  
tacaatactt gcggttctcta tcactattgt ggggtcttatg ggtaagagtt ccgacgggat 180  
ttgggttcac agtgttccag cgaaagacga atattgtgca tacaagtctt cctttcaagt 240  
aaaccaccac ggcatagctt cctattgcaa gtatatcatg gctgtagcag ctattggttt 300  
ggttatcagc ttcttcgagt tttggtatgc attcctcgga attttcttca agtggcaaca 360  
aaagtgtggg tatattgaat ctgctatcaa cgtgtttttc tgggcttggg ggtt 414

<210> 2734

<211> 251

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-C7

<400> 2734

acccaagcgt cagctcactc tgtccggata ttgccaatgg aatgctgaac ctgtacagag 60  
gcaggttagga tcataccgta ttgatctatc acgtccatat tgtctcaagt tacctggaaa 120  
ctgttgttct accttacaat aattgcgggg tcgatcacta ttgtaggtca tatcgctacg 180  
acttccgacg gtatttgctg ttacactggt ccagcgattc gacgattatt ctgcatacaa 240  
ctcttccctt c 251

<210> 2735

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-C8

<400> 2735

cccacgcgtc cgcccacgcg tccgaaatat tcgtagaatg gaacaaatat tgttgagag 60  
tcaaaacaaa gcgcttggac aggtgaaaaa gggagccttg tctataaggt cgttgaacca 120  
cgtttccttt tctgtaccgg aaccagtga gacgggcaag ttcttttgcg agattcttgg 180

ctttcgagtg gttcgacgac ccaacttcaa ttttgacggt atatggttgt acagttatgg 240  
tattcaaata caccttatcg aaggtgctgc tctcgaaaga ccaaatatct tgaaacccaaa 300  
cacagaccat atatctttcg aagcggatga cctcacaagt atacagaata aattggacac 360  
tttaaatatt ccgtatcttt tggagtatca cgaacgggag aacttgagac agctgttc 418

<210> 2736  
<211> 345  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E2-D1  
<400> 2736

agcgacacgg ttttcttgtc ctctaagcgt ttgcctttgc atcgttgtgg gaagaagcac 60  
actagctttc ctagtcgtca cttttcgata tttcgtcaac ctattagaac aaagatggga 120  
ctcaaggacc aagtgttgaa catgtttggc agaggatatg aacccaaaga cagagaacaa 180  
gccatcattc cttctgggga acattatgtg ttgaaaactc ccctagttgc caactttgaa 240  
gagatgggat ataaatatgc catgtttgga ctcggttgtt tctggggagc tgaacgtaag 300  
ttttggcaaa ccaaagggtgt ttattctaca gctgtcggtt atgct 345

<210> 2737  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E2-D5  
<400> 2737

agaaagaagc caattcgagg tggaatacct ctgtgttttc cacagtttgg tccttatggt 60  
tccttagcac aacacggatt tgcacgcaac tctatgtggc acttgaaaca aataggtaca 120  
acgaaagatg gctcagccac tggagtcgtg ttgtctttat cttcaaaaga tgtggatgct 180  
gcatggacct ctgctgggcc ttacgctttt actgcccatt atcagttgtt attagggttt 240  
caaggtctac aaaccaattt ctgggtacga aatgaaggag aggagtcctt ttctttcacg 300  
tttgcccttc acaactattt tgatgtatct gacgtctcta gttgtcaagt atttggattg 360  
gaaaatattc cctattatga tcgtcgaaag aatga 395

<210> 2738  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E2-D6  
  
 <400> 2738  
  
 gcaatatgcc tagtcataag gaacaaaata aaggaattaa aatatacagct gacgggttacg 60  
 cactaaagtt gagcgggtatt cgggttgacg tagacggcag tttgggtcact atgggtggacg 120  
 cagacgacct cagagccctc atgtttaagg aaagcctcaa ggaaaagtca aagctgcatg 180  
 acccaaaatt tttcaaaagc tattatgagg agaataagga ctacttttat tatatgactc 240  
 atacggagaa gaaaatgttt ctttctctgg aagttgcacg agaatacgtt actctgggtgg 300  
 gaaactcgtt tctgcagaaa tatttggaca aagtcattga gcacgaacac gcataactaag 360  
 ggaaacaacg ttgttgctga tagtttgcg 389

<210> 2739  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E2-D7  
  
 <400> 2739  
  
 gcagcttaca aatgtgagga agccacttcc gacattttgc gtgatattgc caaggaaacg 60  
 tccaaaatgt tgcaagttt agaagaagga gaaaaaattt ccaacctcgg ttccaagttt 120  
 cgagacttgg ttcaccaatg ttgagtagg ttcgacagtg cagtttctga tgtgaattcc 180  
 agtgctttgg tgtcacgaaa acgaagagaa cttgaagcaa tcattgacac ctcatataat 240  
 gctgtctttg tgaaacaact gcaggtttta cgtgagaatg ctttgtcgca gttcaaggct 300  
 tccttatctt cggaagaggt tccgagcgat tttgcgttct ttactgccga cagtatgttt 360  
 gttcgagaag cggaagactc cattcgtcct ggaagtg 397

<210> 2740  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-E1

<400> 2740

aggaagaag aaggaaagaa tagtgagttt gtacaacaat ggccaatgat ccatcgttgt 60  
tttgcttgga agagagtaga ggaagtcatt caagcgtaa agaaagagac cgaagcaact 120  
gcagattcta caagcaagtt tgcacaacaa gccttggaac aaatattgaa aggttctcca 180  
acgagtctca aagtaacttt ggagtcctac gaacaagctt cacagatgac attgaaacaa 240  
accttacaaa aagattttccg tatgtcgatg cactttatga aaggtcacga cttttatgaa 300  
ggcattcgag caactttggt agataaggat agaaacccta aatggcaacc ggacaagttg 360  
gaacaagtaa ctagagcaac ttagaagaa tac 393

<210> 2741

<211> 443

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-E11

<400> 2741

ggtcgacgcc cgcgtccacc cacacgtccg tggttgtgga acataagtgg atcaagaaag 60  
gatgacttat ggttttgttg gcgctagttc ttgttctgt ttggtttacc gcattcctcg 120  
caacttggtt aaatgcttct caacaaagga acataaaatt ttccgtcgcg ctaccacata 180  
cacgtgtaat actactatac tggcggtaga caagtcgtct ttttcaacta gtaatgttgg 240  
caagactgaa caaatcaagc cttttgaacc gaagaagagt gaagacgcaa attcctttca 300  
acagtccttt tctagcatgc cttcgatgca aaataactgg ttttcagatc cttcgaagtt 360  
caacgcaaaa gtacaagatg tagtcagga catactccat atacctactt tctatgccca 420  
gttgctagca gctactgttg gta 443

<210> 2742

<211> 428

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-E12

<400> 2742

cgtcaaggaa aaaaagtggg aatttagttg aaatcaatta ctctggaacg tttcacaaac 60  
 gttcagcaag agcaaacaat tatgtcagtt ttctgcatct tctgaaaggg caagaaatcc 120  
 acaacacttg cgcttttctc ggcatatgtc cttgagatat atctttcggc ctgtgtctcc 180  
 actttaccaa agcattcaga ggccgactcc ttggagatgt ttcctatgta atttatgcat 240  
 agtaggtact aaaaaggatt tgtcagtact atgttgatga aaataaggaa aagagtctgt 300  
 ctctttgttc agagctattg tgtttggcgt gcaggaactg tcgaaagctt catgataata 360  
 tgtgtttttg tgtccaaaac aatggagctg cttttggata gcagaaatgc aagtgtctgt 420  
 gccgtttg 428

<210> 2743  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-053-Q1-E2-E3  
 <400> 2743

agagagaaag aggaaaggga tgaaatgcag agatctctag agaaaggcaa gaaagaaaag 60  
 aaaggaagac acagtaaagtg aggcgagaaa gcatangaag tgaaacggat tangaacccg 120  
 tgtagtctat gcagtaaaag agagaatgag taagaaaaaa gggagtcatt ccaccagggg 180  
 agtaaangcg caagaaagaa accanagcaa ttgacgggaa tcggaaaaag ggggtggatca 240  
 cgtaaattaa tccgataaac cgaaaacctt acct 274

<210> 2744  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-E5  
 <400> 2744

agttggggtg tccactgggc atggaggaag aagcggttatt caagtaagca gggtgtcttg 60  
 tgggtgtgat atcacagaga atttctagtt atgtgaatca acattcggaa gaatatatac 120  
 accgtttgag ggaagccggt gctctggatt cagttagttc ggatcccaat aaacgctcgc 180  
 gttgcttgga tatggccaac tatatttgca aatggatcga aaaattggga ggaaagccta 240

ttgtaaagca tataggcaaa caaacgtttc ctgatggcca agttttggac tatcctccca 300  
 tcctatttgg agactttact gtggacacca aggagaaacc agtgctcttg gcctattgtc 360  
 attacgacgt caaacctgca gatatccaag a 391

<210> 2745  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-E7  
 <400> 2745

agggttgggt tgtccactgg tcatggagga agaagcgta ttcaagtaag caggttgtct 60  
 tgtggttgtg atatacaga gaatttctag ttatgtgaat caacattcgg aagaatatat 120  
 acaccgtttg agggaagccg ttgctctgga ttcagttagt tcggatccca ataaacgctc 180  
 gcgttgcttg gatatggcca actatatttg caaatggatc gaaaaattgg gaggaaagcc 240  
 tattgtaaag catataggca aacaaaacgtt tcctgatggc caagttttgg actatcctcc 300  
 catcctattt ggagacttta ctgtggacaa caaggagaaa ccagtgtctt tggcctattg 360  
 tcattacgac gtcc 374

<210> 2746  
 <211> 337  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-F10  
 <400> 2746

ggtcgacgcc cgcgtccacc cacacgtccg ggttgagatt ggttttcttt tcgtccacgc 60  
 ttcgttccgt tactttttgt cgtgacaagt tataatataa aatggccaaa gtaaaccctg 120  
 tgtcgtcggc tcctaaacta agtgtaacta gagagatagc tatcggattt gggcttggtg 180  
 tagcgtgtgc tatggtattt cgccagtggc atctcggata cacggaaatg ataagaaaat 240  
 attatcgga gttggatgag caagaacaga gttcctcgtc gtcgtgaaaa ccgccttgtg 300  
 tttgtgagat agcaataaag tggactcttg tttccat 337

<210> 2747  
 <211> 267  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E2-F3  
  
 <400> 2747  
  
 aggttatgat agaaaagatg gaagtaatac acatggtaag tggactaata ctgaatcata 60  
 tgacagaagg aatggagaat ataaggaagg attacatgaa ggaggagatt atacgagaaa 120  
 tgataaggtc gatatatata tcgataataa gtgtgatagt tatataaagg aggacaaaga 180  
 gacgaaagag gtgtacgatg caagctaaga agtgacccac tagatcagag agtaacacat 240  
 gcaagtacgt acagcgaacg ggtgagt 267

<210> 2748  
 <211> 129  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-053-Q1-E2-F7  
  
 <400> 2748  
  
 ttgcatcgctc tgctctgagt tgctcttttc gctcttttct tatcgctgcc gcagttgcc 60  
 gcgccgctcgt ttcagaggag agatggggat atgcgcagca gggccagcac cagcaacagt 120  
 gccacaag 129

<210> 2749  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-053-Q1-E2-G12  
  
 <400> 2749  
  
 gcgtccacat ctacagagag tagcaatacg aaccgacaac ctttcctcgg cttgccttct 60  
 tctcagtcgg tttcaggctt tccatattta agatcttttt tgattgttat tgttgctatt 120  
 ctggtgacct cttttctctc ctggaagcac gcaaaaacag tccacaagga tgctccgtta 180  
 ttgacaagct cttattgcag aagcttctct gggcctagct ttcctttcgt attgcgttct 240

acaagagtag tgacggataa aggtatttat attgtcttgt ttgcttgtct aagttttcgt 300  
 cgttaggaac ttttcccgct tccatatttg tcgatagcgc tggtttcac tcgagagtag 360  
 ttcttggttt ggttgaagac tcgacttggg gttgtcttca tgatgtanga aatctgggtcg 420  
 ttatgcctgg a 431

<210> 2750  
 <211> 304  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-G6  
 <400> 2750

gcgtcagcgg acgcgtgggc ggacgcgtgg gcggacgcgt gggcgaggat cgaatgcaga 60  
 cgctgtagtt ttgtgattgt ttcgtgtttt gtcaagcttg tctcagtaat aaaaagtgac 120  
 attttttagtt gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaagggaggc cgcccaaaag 240  
 gttaaaaaac ttacgtatca cgtgcatgaa atttcaaac ttttttaaag ggtaaaacaa 300  
 tttc 304

<210> 2751  
 <211> 139  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-G7  
 <400> 2751

accaagcgt cgcgccacgc gtccgatgga ggtaaactgg tgttgggttg gaggatcgag 60  
 tgcagaagct gtagttttgt gattgtttcg tgttttgtca tgcttgtctc agtgggggaaa 120  
 ggtgatattt gtagttgag 139

<210> 2752  
 <211> 69  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-053-Q1-E2-G8



<400> 2752

ccacgcgtca gccacgcgt cggactagt tctgtattga ttggctctac gtctgccaat 60  
agttttggt 69

<210> 2753

<211> 235

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-H1

<400> 2753

ggtctagaat tacgggccga gcacgcgtca gggagaatgg aagaggagga ggacgctgcg 60  
tattattcac aaatagataa ggaagtagtc gagtctatgg aagtttccga gagtgtttct 120  
gggtttcctg cagagacgga gaagccttat agaataccaa actttacacc attgactcaa 180  
gacgactttg acgaagactt gtggttttcc atggaataaa agtatagttt tttgt 235

<210> 2754

<211> 326

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-H11

<400> 2754

ggccgacgcc cgcgtccagg caagaaacac gcaaatactg gaaagcagtc atcgatgatc 60  
gagaacggaa caaactgact atcacgaaga aaagatggag tagatcagga ccgaaagctc 120  
acggaagtca gagtaagcgc aggagtcatc ttaatgaaag caggaaagtc attgctcaag 180  
agagtgtaca cctcgtcact ttgcaaaat ctcaaacga gtgaaagagg aagccagaag 240  
attgcatcac cagtagccag gtaacacccg aagctacttg atcatatgct gtccatgcga 300  
actactgctg aatcaatacc tgtgga 326

<210> 2755

<211> 276

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-H2

<400> 2755

acgcgtcagc ccaagcgtcc gggaaaacaa cgtggaaact atcgacagaa ccaacttaag 60

tgtacctcca atagtgtctg aacgtatggg aaagcgtatg ttgtatgctg ccagtgttcc 120

tctcaccttt tttgttctcc tttttgggtc cctattcgtg gcaaagtttc agtttgatat 180

tacttttatg ccacgcgtag tagcgtatag ttcgttggtg cttatttttt gtaccatggc 240

agcactgagt tatggtattt tttccgcctc gtggga 276

<210> 2756

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-053-Q1-E2-H3

<400> 2756

cccacgcgtc cggggcaacc aactaccacc aaaagtagca actgcaagga ataacagagt 60

gtcctaaaga atagcaagtt gtgatgagga gaattggtag caaactcttg tcttattccg 120

gcaatgaagt aaaacttcgg gatgttggtt cttctctaag ggagacgagt aaagcgacgg 180

ggtcttccat ccggagttgg cttcgtgata tcaaccagtg gtatgaagac acttactata 240

aaaagggaaa ggtggatcct ttggtacatt atatgttact ttgttttgga ctgggatata 300

ccatcaatta ctcccatatc aaacataaag tggagcataa gaatgacgat attgaaagct 360

tgtaaaggtc accttggtgt gttgtggtga tggctgacgc atagttggtg atatagga 418

<210> 2757

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-053-Q1-E2-H4

<400> 2757

cattgttgat gagaccgagg ttaataggga catgaagaca aggaaacctg ttctctttcg 60

gggtccagat ggtcgcctac atcgagagc ttttatcgga ccgaaaaagc cacatactca 120

aataacaatt agagagattg acattggaac tttaaagcat agttcgagcg acccaaattc 180

atccgttagg agaaaaaagg cggtagaaaa cttcaataag caagtgatgc gcggcgatat 240

cgatgaatgg agtttgagga acctcgctta cactaccgat gatattcaag gctatgagtc 300  
agattctgac gaggcacccg antattcaag taatgtcaat cagcactctc attcttatgc 360  
aactgcgtcc aacagt 376

<210> 2758  
<211> 95  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E2-H6  
<400> 2758

gaccaagcgt cagcccacag tttcaaactg tgttggtatg acgatgccat tttgcattgt 60  
acttgctacg acttttaagt tttcacaaat tcctt 95

<210> 2759  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E2-H7  
<400> 2759

gacccacaga cgtcagcgga cgcgtgggct aagctattac ttgtacaaga ggaacgtaat 60  
ggattgacca agtgtgagaa gcaaagtcaa tggaacagga agaggaaagg cgaacacagt 120  
agcgaataaa tctatagtag aaagcagtaa ggaaatgagt actgtgcatg aggacaggaa 180  
agtatttgaa gaatagagt taaagcgcgt agcttttgca taatgtcca tcgagtgaaa 240  
gaagatgcaa taagaaagaa aaagaagtat ccatttaaga cccgaagcta gttgatctta 300  
tgctgtcgaa gcgacataag gctgaccag tatctgtgga aaatgattta gaagagatgg 360  
cataaggggt gacatgccaa tgacagctag tgatatctgg gacaccgcta aagc 414

<210> 2760  
<211> 365  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-053-Q1-E2-H8  
<400> 2760

agcggacgcg tgggctgacc catgggctgt acgataggta gatcagggat cgatcacggg 60  
 tgcaaaacgc cctcaaaggc gcaggcactt gaaaagcgag aaaagtagcg aagaaatcta 120  
 aaatagcaag gagtaagaga aggactaatg taaatgaacg caggatacta tttgagtaat 180  
 acagtgtaaa ccgcatacct tttgcataat gtcccagcga gtgaaagacg acgcaaaatc 240  
 aactaatgga atgtggccag gtacgcctag actcccgatg atattcaacg gtacgagtca 300  
 gattctgact aagcatccga taattcaagt aatgtcaatc agcactctca ttcttatgca 360  
 actgc 365

<210> 2761  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-A1  
 <400> 2761

cggaaaaagg ggtggatcac gtaaattaat ccgatataaa ccgagaacct tacctctcca 60  
 agaaggtggt gcacggctgt cgaaagaacg tgctgtgaag tgagagaacg tacgagaaag 120  
 ccaagtgagg aaaagaaggc aagtagaggg cggcccgaga aaggagaggg cgtaagacgt 180  
 gatacagagt aggaagaaaa gagaagagag ctagaaagga ggtaaaagaa gagtaaaagg 240  
 actagaagag gtacggaatt cacgaggaag gagcgtgaag gaaggaggaa tcccaagtaa 300  
 tcgaggaaga aaaagcttcg gtgaaagcgt gaacggattt tgtacacact gcccgtaag 360  
 ttctggaagt gtg 373

<210> 2762  
 <211> 332  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-A3  
 <400> 2762

gcacgcgtcc gagggcgtaa gacgtgatac agagtacgaa gaacagacaa gatagctaca 60  
 aaggaagtac aagaagacta taacgactag aagacgtacc gaattcacga cgaaggaccg 120  
 tgaaggaagg aggaatccca agtaatcgag gaagaaaaag cttcggtgaa agcgtgaacg 180

gattttgtac acactgcccc tcaagttctg gaagtgtgct aagaataagc aggagaagta 240  
 taagagagta tgaaaagaag aaaggaagtg aagacgtaag acgtgaaaaa aaagcgtaag 300  
 acgtgataca gagtaggaag aaaagagaag ag 332

<210> 2763  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-A8  
 <400> 2763

gcgcgcgtcgt ggtgttttttc gattcttctg ggcagtggtg ggtgagaata gtaaaacatg 60  
 acgagatatt ccaaggaacc agataacccg acgaaaactt gcaaagctcg tgcttcggat 120  
 attcgcgtgc acttttaaaaa cacgcgagag acgggacgtg ctttgaaagg aatgagctta 180  
 cagagagcaa aaacttattt gaaaaacgtg atagagaaaa aagagattgt accctttgta 240  
 cgctatcgtt atgggtgttg tagaaaagca caagccaaac aacacggttt tcccaacgga 300  
 agatggccga agaagagtgc gttggtatct ttggacttgt tgaagaacgc agagtccaat 360  
 g 361

<210> 2764  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-B11  
 <400> 2764

cgaaaggagt agaagaaaag agagagaaga aagaaaagaa gagaaaagcc gtactgaaga 60  
 ccgacacagg tactcgagga gaaaggagac ccaattaag gtgagagaat ggacgataag 120  
 gaactaggca aaaggatatg gtatctgcgg tagaacatat gaaagaagca gcaccgactg 180  
 tttagcaaaa acacagcact ctgcagaaaa gaggtgtatg atgcaggcaa agaagtgacg 240  
 cagtagatca gagagtaaca catgcaagta ggtaaagcga acgggtgagt aaagaggtgt 300  
 gaaagagtgg aagaacatga aagcacagaa gaatgtaaga aatgggttaga gtaaaaacca 360  
 taaa 364

<210> 2765  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E1-B12  
  
 <400> 2765

agacgaaaag caaattcccg cgcctattcg ttcagaaaca actttagaag atgaacttgt 60  
 cttagatgca ccagcacaaa agacattaaa cttatataaa gtagataatt atacttttgg 120  
 cacgaagcag tcatcccaaa aacaacacga aagaaatcca cagcgtttaa aggaaaaata 180  
 tcaagaaagg ggtttgaggc actctgttgc aggagtactt cttgtacatc accatcgaca 240  
 tccgcacgtt cttgtattac aacaaaccaa ggactctgga agtttttggc ttcattgntgg 300  
 gcgtttggcg tccaagtga ggtgactttg gaggggtatc gaggaaactt agatatcgct 360  
 taaggagtcn ctcacaagag aagg 384

<210> 2766  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-054-Q1-E1-B2  
  
 <400> 2766

agcgacaaca accatcagaa caaagtttgg ttggttccgc accgttatta cctcatcgac 60  
 cagaacagca gtatgtgaaa aacacagggga aaccaagaag aagagtttgc aaggaatcaa 120  
 cggaagagaa acatccaacg agacacaagt tgaatcatgc aaaaccacga gataaggaga 180  
 ttttgaaga agaggaaatc ttcaatttac tagaagcttt tagaaagtat tttccagaac 240  
 caccgagcaa tttgagagct caagaaataa ttgaagtagg tatttgcatc ccttggcttt 300  
 tgaataattc acaggagaaa gagtaggtct ggtaggttct ttacggagaa agaacagtgg 360  
 gagctgtggg aaaacgtttt g 381

<210> 2767  
 <211> 360  
 <212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-054-Q1-E1-B3

<400> 2767

cccacgcgtc cggataaata tggaatcctg gaaggtttga tgacgaccgt tcatgcaact 60  
actgccaccc aaaagacagt agatggacct tctcacaagg attggagagg aggaagagga 120  
attttgaata acattattcc atcttctact ggagcagcca aggctgttgg taaagttatt 180  
cctgaactga atggcaagtt gacgggtatg gctttccgtg ttccttgtcc ggatgtttct 240  
gtcgtcgatg tcacttttctg tttaaagacn acaaccactt atgacgattt caaggcaacg 300  
atgaaagctg cgtcagaaaag caaagcttta aagggaatat tggcatatac cgaagatatg 360

<210> 2768

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-B4

<400> 2768

caacatcatc aaatgccaaa gggaggaaaag aaagattctt caaagaaaaga agccacaagt 60  
aaacctgcag cagcagatgc tacaaagacg acagaaaagt ctggtccgga agccaagtgt 120  
aagggaactg gtgcaaagaa acaatacaaa gttgactatg catgtgcagt cctgttatgt 180  
tttgtgagtt ctgtttgata gtttccagct attcttttgg tagtgaataa agagaaaatt 240  
ttttatattt aaaaaatttc gtttaaagac acaaaccact tatgacgatt tcaaggcaac 300  
caaggaaagc tgcctcaaag atcaaagctt taataggaat attggc 346

<210> 2769

<211> 377

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-B5

<400> 2769

gaaataataa aagagagaga gcaacgacga caaagaaaat gaggttattt caacgttga 60  
aaagaattgg caactatttc atctactcgc aatactctag tcgaccgaat agtttatttc 120

aagcagaccc taggaaatat aatatatatt tacagcatcg agtggagaaa cacctagttg 180  
 cccattctat ggttgcagca tccctacata atcctcgctg tcttacaagt tcttcacag 240  
 aacaacaaca ttggaaccaa gtacacaaaa caacaacaac accaagtgtg gataatcatc 300  
 ctagtcgtga agaagaaaag agtttggtac tcgttcctgg tcaagagaca aaagaagaac 360  
 aaggagccaa gcgacag 377

<210> 2770  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-B6  
 <400> 2770

atcgttgttg agatatgcaa acttccctcg cattctcttg ttggacaccg ttgcagcgaa 60  
 cttcaaagaa cgtagtttgc tcgtctagtt tttgcaaaaa tagctctatt ccgttccatg 120  
 ctaccaacag aaggagttgt gtttttccgc tgtctttttt tggagcgcct gtcgttagtt 180  
 ataagtggga agtggctgca aacctgcagc gaaggcagtt tggttcagtt tccatggagg 240  
 tacgtgttga cgtacgtgaa ggtgaaccta tcgattctgc tatagcaagg tttcggagag 300  
 aagttagcaa aagtggtcac ttgtttgagc tgaaaagacg acaagagttt gaacctaata 360  
 gtgtgaagcg acaaagatca aggaaacaag ctcta 395

<210> 2771  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-B8  
 <400> 2771

cggacgcgtg ggcggacgcg tgggttttcc caacagaaaa tatacacaaa cagtgataat 60  
 ctagaagaat acaatcaact tgagaaaaaa attcaagtaa tcacaacttg catctctatc 120  
 tcatatcatc tttctatcat ggaccaagtc gatgcattct atgcattggt gttgtgttgc 180  
 ttcctagaaa aacttggtga gagtgcctatg aactgtttgc caataaagac gacaacggag 240  
 gtgcaatgcc catttattgg ttggagatcc aagcgtcgtg ttctgccaac gtacaaagga 300



taagcgtcca tagcaactat atatggcact tgcagctaca atgtatgcaa tgtagtgaaa 360  
 aaacgggggtg gattgc 376

<210> 2772  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-B9  
 <400> 2772

tgatgagctg ttccaacggc aaaagagaaa cgagctctag tgcaacactg aatgaccttt 60  
 aaggcttgat ttttccgatt atcatactaa acgctgattt tacacacaac tcacgagaaa 120  
 ttgatattag agtcgacgag aaagaaacat attgagaact gatgttaatc tgtctagctg 180  
 ttggcaataa gacaagctac ggcgtctttc caagtttctt tcaactctta taaacaaaac 240  
 aagtaaaacg cctattcact actggtaaag tcttttcttt cgataaaaaa aaaaaaaaaa 300  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa ggaaaaaggg 340

<210> 2773  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-C2  
 <400> 2773

cccacgcgtc cgcccacgcg tccgcccacg cgtccgcgat gcggagtgga acataattta 60  
 cgacaagttg gaaaaaatcg tcgctacagg tgccaaagtt gtacttagta agttggccat 120  
 cggagattta gctacgcagt attttgccga tcgagacata ttttgtgctg gtagatttcc 180  
 agaagaagac atgaaacgtg tcatgaaagc caccggtgca agcatgcagt ctacagtgaa 240  
 taagctaact gatgatgttc tcggtacttg cgcattgttt gaagagaagc aagttggtaa 300  
 tgaacgttac aactttttca ctggttgctc atatgctaga acagcgacat ttattattcg 360  
 aggtgggttcg gagcagttta tggatgaaac ggaacgttc 399

<210> 2774  
 <211> 137

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-C3  
 <400> 2774  
 tctatgcaga ctgatcctca attcagggta aaccatggat tacttcgggt tagtaatgat 60  
 cgtttccaca agtcccgtag atgtattcag gaagttgggt ataggagctt aaggatcgca 120  
 ttcctttgcc gatggaa 137

<210> 2775  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-C6  
 <400> 2775  
 ggtgtatgat gcaggcaaag aagtgacgca gtagatcaga gagtaacaca tgcaagtagg 60  
 taaagcgaac ggggtagtaa agaggtgtga aagagtggaa gaacatgaaa gcacagaaga 120  
 atgtaagaaa tggtttagagt aaaaaccata aaggaagtaa aagcgggaat ctgagaggag 180  
 gaaagccaca ttggaactga gaaaagggtcc aaacaaggga agtaaagcct aagaaagagt 240  
 aaattaggca agcaaaggca tgagagaagt ataatagcag aagcatgctt gaagaaaaag 300  
 aaagagattt cagaaaggga agaaaagtca gctatagaga acaggtgaag gagaactcaa 360  
 aaagaggaga gcaccgaacg atcgaagaag aaactttggg ggtaac 406

<210> 2776  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-C7  
 <400> 2776  
 cccacgcgtc cgcaagaaca gtgggtgctt tgtaccatgt ctttctgtcc ttacaagtga 60  
 ataggttcct atggttatct ggactcattc tggcagttgt aactattctt caaaccttag 120  
 ttatgtatag aagctcaact atagaacaga aggtgtcctc taaacaaaag tcttcaaaga 180  
 aagaccccag aaaagaacaa ggagtttcag gttgtccttt gacgtgggtc caataaaagc 240

agtcattcaa ctacgccatt cgggttcacag ctatgggtttc cttcttcatc tttgaactga 300  
 tcacatacaa ccggtagaag cgatgggagt cgagacaagc tagaaaaagg aactcgcaac 360  
 aagtcaaagc cacaaataag ttgttaaccg aataactgtc caatacgggt t 411

<210> 2777  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E1-C8  
 <400> 2777

cgccctccat atttcacttt acagacccaa aggagacctg gtatggcctc atcttgccac 60  
 ttcccaaaag gcgttttcca gagtctgcc aagtaagtttc aagtgcgtta tgggtgagag 120  
 cgttcatcct ccaaagtctc tttatataat acttattgtt gtttgaaaat aaactactct 180  
 cgagtggcag taacttggat acttgctgca accatgtttt ccaccctacc tctgggtctc 240  
 tgttttgata atactgcgtg gttttgctat gctgaaggga tagaacgtga tttaggcaaa 300  
 gttggcggtg gtgcagcaag ctcggggaaa acctctactg gtgtatctcg gactgtaact 360  
 agaggagtga acctaagtgg agcagatttt tcgggacagg accttantgg tgtcagttt 419

<210> 2778  
 <211> 359  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-C9  
 <400> 2778

gccaatcaaa gctagtata gctgggtactc ctcgaaagct atataagtag cgtatgcagg 60  
 aaagaagaag gtaaaggaag agaaggaaga agcagagagg gactatgagc gagaaggtgg 120  
 atagtcgaga gggaaaaagc ccagaagcca agataaggta tcaaagtaaa gaaagaagga 180  
 aaaggagaag aagagagggt aggccttagaa gcagcaaacc agagaggaaa gcgttaaagc 240  
 atgaaagaaa agaatccga aaaagaagag aaaaaggtaa gaaagaggac cgaatcaggg 300  
 taagaggtag aggagcaaga agagaagaga gaatgctggg tggagtatcg aaacaagag 359

<210> 2779  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-D10  
 <400> 2779  
 atcaattgtg tgttacctcg agaaacgtat atccacaatt ccttttctac tctccaagga 60  
 gtgtaccaag aaaaaccgta aagaagacaa ctcaactcaa ttctgccaaa cgaacgagtc 120  
 ctttctgcag taactttgaa gaatctgaag ctctgtgact gcgcacggtc acgagacttg 180  
 tatgaaaagt actagctcaa gggtactact ggaacaaaac aatactgcaa ttcacttggt 240  
 cgatccattg cttgcaagca acttacgagt caaacagcga ctcgaagagg caccaacggt 300  
 actattcttg caagaataga tatcgcttag tgcaacaaca taagtatata ttggatatatt 360  
 tgcaatttta gttcgtcaaa agatgctat 389

<210> 2780  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-D5  
 <400> 2780  
 cccacgcgtc cgcccacgcg tccgggtgtc cactcgtcga ggaagagcta taaggtttca 60  
 agtggatgac gagaatttac gtgcaactag cagacttagt gtcgggtgtac aagcaatttt 120  
 tttgcaacct ggtgattgcc tagccgatgt ggatgtcatt ccatcgtcat ggctccaaaa 180  
 gggatcctcg gagttgtatt tcttggcagt tggcaaatat ggaaaaggaa agagaataag 240  
 agcattagat attccggaac gaaaacgata tcaagtagga gtttatgtga tgaagtttga 300  
 tcggaagaag gaaccgaaag aagagcttcg atttttccgt gcgtgtcgaa gcgatgaagt 360  
 tgtgttgtgc accaacac 378

<210> 2781  
 <211> 334  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-D7

<400> 2781

gttgaattg agaggagggg cgacgagctc agcttgaaga ataattaact tgcgtggggg 60  
tggaagttat ttatgaactt ggactctatt gacagatgaa ttaatgcgcc ttttgacccg 120  
tttgacagacg cctcacgtgg atatgacgca acagtatgca aagatatagt gcatattcgc 180  
ttgcaagata gatacggacg caagtgcatt acgacgattc atgggcttga cacataattg 240  
gatttgaata gtattacata ggctttcaaa gaggagtttt gttgcaacg tttgtgtcgta 300  
tacgacgcac atctgggaag agtcagccat ctgc 334

<210> 2782

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-054-Q1-E1-D8

<400> 2782

caaaagtgcg agcaagtaag actcgatatt actagaatga agcgtacgtt gcagttcacg 60  
ttgaccaagc tccaagatct gaaagcagcc tcattcaaca gagatactac gcacagagag 120  
aaccggaagc aagtgaacgg agttgacgaa gaaatggaac ctcaagaatg gctccactgg 180  
atagagacaa aggcagattc gtcaacactc gcatcattga aaagccaggt acaaacgata 240  
tcaaaagacc agcaatggac ttttctgtcc tcncttttag agaaagccta ttcaaccgtc 300  
aacagcgaag atttatcaac cgaatcctgc tcagtgcac agcttattca aaagaaagac 360  
gaagaaatag cttttttgcg gcaacgacta gccg 394

<210> 2783

<211> 353

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-D9

<400> 2783

cccacgcgtc cgcccacgcg tccgggacct cctctttcca aaaattattt ctaccacgtg 60  
aaccgcaata cgaatagtga aggagaacat aaaaaacgtg caagatgtat acaagaacaa 120

ccgcaagttg ttttcgatcc tagcagcccg atggaagaac aagcagcgac atcaccacaa 180  
 gatgaaagtc cggtccgag cagcagtaat cctagtagtg catcttgga tgtattgtct 240  
 ttaccagcag aaaaatggaa agagaaagca ttggatgcag agaaacgtgc tcagagaaca 300  
 agacaagttg ccaaagcaaa gattaacgag tttcgtgaaa catgttatca ttt 353

<210> 2784  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-E10  
 <400> 2784

aggatccatc taaagtccaa cctatggcta agatttgacg ggaaggagtt tatgccgcca 60  
 cgtcccaaaa tcgaatttag ctgttgata aaattcggaa caaactatcc tcgattagat 120  
 tacgcctacg tagatatgac tgacgacggt aattggatgt tgtacctcat tcaagtttct 180  
 gtttcatctt ttccagctca tagcatagac ttagcacagt tggaacggtt gttcaagaaa 240  
 actgatggaa ctgttcaact tgcttcgttg ctaaattcgt tctttgctga ggttttagaa 300  
 gtctcgcttg tgtatgatgc cagggagaag atagtgaact tcgaggtaac agactctcaa 360  
 ggcatatctt ttcgagacag aatatctatt ttgtatgtga ct 402

<210> 2785  
 <211> 290  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E1-E11  
 <400> 2785

agatacaatt gacggaaaca tttactacca aaaatattct ttctgcagcc attagtattc 60  
 ctccttgatga caaggaatgt aataataatg acgagaataa caattagagg ttatcccaag 120  
 tttccgttct cttttcttcc tctttcattt gttccttgat tctttccaca attagattgg 180  
 aaggggctaa gaaatagaaa atagtttcta ttccattctt cagtcgagaa ttgggaatat 240  
 gtggttctat accgatataa agatgaccaa gaatggataa gaacanaana 290

<210> 2786  
 <211> 262  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-054-Q1-E1-E12  
  
 <400> 2786  
  
 aggctctagg tccaaccctt gggttggttc ctccaaaatt taaccaacct aattaactta 60  
 tccccggaag ttgccaaccg aagttacaaa ctttacaggc aactttatta ctacatacgc 120  
 attcaaacat atgaccaatg caatgacgaa tacagggtacc cttggttggtt tccaaggagg 180  
 tcttactaat ctcggttgga tgtatctcaa gttctttatg ccacagacct aagacaagac 240  
 tctcgaaaaa atgtgtgaaa ta 262

<210> 2787  
 <211> 295  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-054-Q1-E1-E7  
  
 <400> 2787  
  
 cccacgcgtc cgagtttggg tgttttcttg gtagcagttg tacattcaac atcatcaaatt 60  
 gccaaagggg ggaagaaaag attcttcaaa gaaagaagcc acaagtaaac ctgcagcagc 120  
 agatgctaca aagacgacag aaaagtctgg tccggaagcc aagttgaagg gaactgggtgc 180  
 aaagaaacaa taaaaagttg actatgcatg tgcagtcctg ttatgttttg tgagttctgt 240  
 ttgatagttt ccagctattc ttttggtagt gaataaagag aaaatttttt ataag 295

<210> 2788  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-054-Q1-E1-E9  
  
 <400> 2788  
  
 agtttgggat gtttggcata agaaagctcc catgcagaat tatctcttac acaacacaaa 60  
 attctgttcc gagtttggaa tgcaatcgct ttgttcggta gagacatgtc gtttattcgc 120

accggaatca gaaatgaata tgtttaattc catatttgaa agtcacccaaa agaacagagc 180  
aggcaacgaa atcatgtttgc attatatattt tcagttgttc caatttcctc gtcatacaa 240  
aagtttatcc tatctttcac agctgaatca agctctatgt atgaaatgtg gcgtcgaaca 300  
ctttcgtaga caaatgccgt tttgcatggg ctctctttac tggcagctga atgattgttg 360  
gccagtgact agt 373

<210> 2789  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-054-Q1-E1-F1  
<400> 2789

aaagtattcc ggtggaatga ggaggcgggt aagcgttgcc gtttcgctta ttggatttcc 60  
ttcggttgtg ttattggacg agccttccac aggactagat ccagactcca aacacaagct 120  
gtggcaatgt atccaacaga gaaaagaggg caaaactatt gttttaacga cacactccat 180  
ggaagaagcc gaaagactgt gtgatcgtac cgggtattatg gccagtggaa gtttgaaatg 240  
tgttggctct ccagaggaac tgaagattcg tcttggaana ggcttccgtc tgaatatttc 300  
ttgtccaaga agacgcgtta aacaagttct ttcgtttata gaacaacagt atgcagatgc 360  
atttttggac cattccttaa cgggtagtgt tgt 393

<210> 2790  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-054-Q1-E1-F11  
<400> 2790

agccccacgg tccgcccacg cgtccgccc cgcgtccgcc cacgcgtccg cccacgcgtc 60  
cggccatttt tcttgtggaa agcgttcgat agaaaaatgc caagagttgt tttggcgcct 120  
tgtaataact cgttgggtaca tatataaatt atgaataaag aaaatctcca aatagcgcaa 180  
tttgagagac tcacaacaga gcaaatgctt aatctgggtga aagaaccttc taggggtttg 240  
tactacacag tcgaacactt gaggaacga gggatacctc gtctgggttc cgaacaagag 300



aaactcgaca cagttattag taaggaggac gacctcaaga tagactgtca gtttgtacag 360  
gagacgatgg aaatgtttcc tgcagctgca g 391

<210> 2791  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E1-F6  
  
<400> 2791

agcccacgcg tccgagaggg gattggtggg tcacgaacga gaggatggtg ttcttttcgt 60  
ttttcaaaac gtttatcggc aaaacagtta cagtagaact caaaaacgat gtaattattc 120  
gaggcaaagt acattcagtg gatcaatatc taaatatcaa gttggaagat atagaaatac 180  
tcaatataga aagttgcca cagttgatga ctttgaaaaa ttcttttatt cgtggtagtg 240  
ttattaggtta tattcaagta tacgctatcg acgtcgactg cgagatgcta caggaagcag 300  
ccagaagaga atacaaggag ttgaagaaag tagccaaata gggcgcaaga cacacgtgac 360  
cattgtctat ctatccacgg cgtgatgaac caactgcaac ttttgt 406

<210> 2792  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E1-F7  
  
<400> 2792

agcagatggc caacgctggg caagatggcc ttgtgcaagt caacaaacat agaaaagtaa 60  
agagattgca agaagataat atttaataga gcactatcac aaccaggaga tgtatttctg 120  
tgcttttgca acatccagtt gttggtgaat gcagaaagag ctattatagg aaatattact 180  
tgtccagaaa gtatcgaatt gtgtcgtcta ttagctggac atatagcggg ttggttcgat 240  
gaacatttgg atgactttcg tttggaagct atcttgggag cactattgtg tacttggtat 300  
tgtgagtgga agcgttttga aggagaattg ggggtacaag aatggaatga attggagaag 360  
atatcttcct tagatacttg gaagcttggtg 390

<210> 2793

<211> 140  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-F8

<400> 2793

ggtcaggagt ccccgggccg acgcaaactg cagcatatgg caaacactgg tcaacattgc 60  
cttgtgcaag tcaacaaaca tatactattc gagagattgc acgatgacaa tatttactag 120  
agcagtatca caccagggg 140

<210> 2794  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-F9

<400> 2794

cccacgcgtc cgccggacgcg tgggtccttt tcgtacattt tggattgtgg cacacaacat 60  
gaaaattcct gtccgactcg tcaagttttc tttggaaaaa aagaagccaa cttgtttcaa 120  
cagaagtata agtggaatcg cctacacttt ttctcgccat ggacagggtt ctgatgtcct 180  
gaaaaaggag actcaaagct atgatgagaa gaaacttggc ctttcgcaag tactcgtgtc 240  
gtttcttgcc tcaagtatag gcacaacaga tttggcgtgg ataagaggta tgggaaagat 300  
aacagaagaa ggatccaagt tgcctttggc tgccggttta gaagggtgtg cagaagtagt 360  
agcaactggc aatcaagtca agtccgtggg tggttgagaa cgcgtggtac ctt 413

<210> 2795  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E1-G1

<400> 2795

ctcagtcaga actgcttctc agttagttac gcaatatgcc tagtcataag gaacaaaata 60  
aaggaattaa aatatcagct gacggttacg cactaaagtt gagcgggtatt cggttggacg 120  
tagacggcag tttggctact atggtggacg cagacgacct cagagccctc atgtttaagg 180

aaagcctcaa ggaaaagtca aagctgcatg acccaaaatt ttccaaaagc tattatgagg 240  
agaataagga ctacttttat tatatgactc atacggagaa gaaaatgttt ctttctctgg 300  
aagttgcacg agaatacgt actctgggtg gaaactcgtt tctgcagaaa tatttgga 360  
aagtcattga gcacgaacac gcatact 387

<210> 2796  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-054-Q1-E1-G5  
<400> 2796

caaatggcgt cttttctact caggatagcc tcgctgtctt ttgacatgt ataggacaag 60  
tcattccacg tttttccaaa gtatttagag gcgttgggaa aacttttgtc catagcaagg 120  
ccatcgaccg tgtgacggat gtgttgata tgctgttata ccaagggcct tgtggttggc 180  
gttatatgac gaatttgatg gataaagaca aagtcgatat ttgtgtggat gaaaatggag 240  
gtttagggtt tagttggatt cgtgaaagag acgggttgtt tttggtgctt tgttggttaa 300  
gtttgttgtc ttggaaaaat gaaaatcgat cagagtggat gagcatagag gatgtgatgg 360  
aacaacattg gaacatgtat gggaaag 387

<210> 2797  
<211> 223  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-054-Q1-E1-G6  
<400> 2797

ccgggccgac ccaaactca gcacatggcg tcctttctac tcaggatagc ctcgctgtct 60  
ttttgacatg tataggacaa gtactccac gtttttcaa agtacttaca ggcgttggga 120  
aaacgtttgt ccatagcacg gccatcgacc gtgtgaccga tgtgttggat atctcgtag 180  
taccactggc cttgtggttg gcgtcatatg acgaatctga tgg 223

<210> 2798  
<211> 414  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-G8  
 <400> 2798

```

cccacgcgtc cgaatTTTTT ttggttcctt ttcgcatgtc ttcagcagca gttgggtcgc 60
aggcagaaaa ccaagacact cgacgtgcc aacgactaaa ggagtatcaa agagtagtct 120
cccagcatag agatattgaa aatagagtgc gaaggcttcg tgaggaagtg aaaactctca 180
agcaacaatt tgataagacg gaagatgact tgaaagcttt gcagagtgtt ggccaaatta 240
ttggagaagt tcttcgagct attgatccgg agaaatttat tgtgaaggct tcaagtgggc 300
cacgttatgt cgtcggatgt agaaacaaaa tcgatagaga taagctcgta cagggagcac 360
gtgtctcttt ggatatgact actttgacca ttatgcgaat acttcctcga gagg 414

```

<210> 2799  
 <211> 286  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-H1  
 <400> 2799

```

agaaaatatg atacgacgaa aatgccaaagg aaaaaaagtg caacagaaaa aaaacgttga 60
tattgcaaaa gtttcttttc ggatattaca gtctctacat tttactcagc gagactctac 120
aagggttgacc taaaaaaata ttatattcta gtttcccaag cataggtata ctactcgtca 180
atgactacgt attcaaatgc ttcttccaaa tttctgtaaa taactagcaa gcgtttgctg 240
caaacgatcg gacaagttta ctttgataac gtttttcaac gttgga 286

```

<210> 2800  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-H11  
 <400> 2800

```

aaaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aataaaaaaa 60
aaaaaaaaaa taaaaaaaaa aaaaaaaaaa aaaaaaacag ggggggtccc cttgggggttt 120

```

caatgttttt tttcctgtgg ggttggcttt gagacttttt ggggcgttcc tcttactttc 180  
tattctgggc ctgtcttttt acatcttcct actgggaaaa cccctggtgt tccccctttt 240  
accgccttgt gctgaattcc ccttttcgcg ggatgggtgt ggttcttata gggctttccc 300  
tgttttgcct ttccaatcct tttgtccacc tgtgatggga aatgggaacc cccccctttt 360  
tgccctttt ccccggtggg gtt 383

<210> 2801  
<211> 359  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E1-H12  
  
<400> 2801

aaggacggtg ctagtgctgc tctttggact tgccgcctat ttctctatac agtttgtgta 60  
gcattttcag caacaataat tggacgtgat ggaaagaagg cagataacat atggaacgat 120  
gccctagatt atcatggaaa agtgggtgaac ttttgtgcat attcggcttc gtcagttttt 180  
gaaagtggcg accatggcgc atgtaaatat gtgatggctt tggcttctat cagcttgatt 240  
ttagttttct ttcgttggtt ggccctccatt gtcgacgc atgtatccaat tcttaciaag 300  
ttctggtttg tggagcttgg tatcaagata ttccttacta tgtagtggat gggttggtgc 359

<210> 2802  
<211> 281  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E1-H4  
  
<400> 2802

ccacacgtcc gccacgcgt ccgccttcct acaatcaata ttcttcttcg tacggttcct 60  
ctagctatcg tctcttaact gcagacgaaa accaacttgt gagcagagga gggtatgcac 120  
caacaaacca atgtattcta gttcctatcc aatgctgcac tgattgcaaa caatgctacg 180  
ccgcatggag ttcctaaata ctgatacagt gctcggatag aaagaaacaa atatcaacgg 240  
atgtttgttt cttttacgtg aataaaaactt gtgttcataa c 281

<210> 2803

<211> 334  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-H5  
 <400> 2803

cccacgcgtc cgcccacgcg tccgatcgct ataggaaagt gagcaatata gtcttcaagg 60  
 caacagcttt aacgttgtcg actgctgcag taattggaaa cctatacata ttcgcaaact 120  
 tgctcagcat agtttccctac agaagttcaa agaaggagct gacggaagcc agtagtactc 180  
 aggaaaactg agaaacacaa gttgtcttca cgtctggagg atggaaatat tatctgaagc 240  
 taggctgggg gtctgttcct tgtagaagct ctggtgtttt gagaacttgc aattgttttg 300  
 ttctttgtag taaagaaatt gtcttctttt ttct 334

<210> 2804  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-H6  
 <400> 2804

aggcttcggg ctataaactt aagatgttgg tgattatctt tgaaatgggt gtagctttcc 60  
 actccgtaat tattggtctg aatcttggaa taagcacagg atcgacattc cgtacgttgt 120  
 ttgctgctct cgtatttcat caattctttg aaggatttgc tgcggtact actgtttctg 180  
 aagcccagtt tggcacttgg attactatag taatggtact ttgctattct ttggaaactc 240  
 caatcggtat atctattggt attggtattg cacacactta tcaagaaaac tcctcggcat 300  
 ctttggttaac gagaggcatt ttggatgcca tctccggtgg aattttaata tacacaggat 360  
 tggtggagtt gttgact 377

<210> 2805  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-H7  
 <400> 2805

agcccacgcg tccgcccacg cgtccgccc cgcgtccgga caaagcctaa tccgaaacaa 60  
 ggcattttctc agatgaagtg gagttttgat ggaaagtatt tggcttcttg taatgaaaac 120  
 actccgcatg tcctctggat ttggaatgtt cttgaaatgg aacttgaagc agttttgata 180  
 tgtcagacaa ctattaagac aatacagtgg aatccatatt gcttacaact tgcttttgatg 240  
 acaggttccg aatatctatt tttatggaat tctcaagggtg ctgtcagtgt tccattaccc 300  
 tttcttgagt tttatccgca gtattgtact tggcctttgc aagagaaagg gacacttttg 360  
 cttgctgaca agagccaatt ctgcctcgcc atggaagaag aataaagctg caa 413

<210> 2806  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E1-H8  
 <400> 2806

agctgacgcg tgggggaaac gttaggctgg aggttggttaa tagattactc attgtgcttg 60  
 gctgaagga cgatgagcac tatctcggtt tctctcaaga aaccgata tgattccttt 120  
 ctagggtttg ttcctataca atgtattggc ttgtcaccaa tgaaactatt caatacgtgt 180  
 tgtgctcgac cgatgagagc ttggacctct ccaaccacca taaagtgtat ccaagacaac 240  
 ctccatgagt ggggttcgtt taaagtantt cgttgtggac aaaaacatat atttctaggc 300  
 cctatcaaca gcttaactgg ttccaaggca ctgcctatcg aaatanaaag ccaactggat 360  
 gccgacttgt tgcgttctgc ac 382

<210> 2807  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E1-H9  
 <400> 2807

agcccacgcg tccgcccacg cgtccgccc cgcgtccgat gcagcccatg tacagtagca 60  
 gagaaaggta tccatattat gacggtgaag tatatgatga cacgggtgtt gttcccccg 120  
 aaacgaggcc caaaggaaga cgtgtcatag tagaagagcc agaagagtac ggaatgccgc 180

caggggacag agatgatagc gaagatgacg agcacattgg tggttggaga agaagagagc 240  
 agcacagcat gcagccttgg gaccagtcac cttttgaaca ttttgacaga cttttcgaaa 300  
 atcccttttc tgcaatggag agaggaggat tcggtggatt atttggtaac ttggaacagt 360  
 ccttaagaag act 373

<210> 2808  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E2-A1  
 <400> 2808

cggaanaagg ggtggatcac gtaaattaag ccgatagaaa ccgagaacct tacctctcgc 60  
 aagaaggtgg tgcacggctg tcgaaagaac gtgctgtgga gtgagagaac gtacgagaaa 120  
 gccaaagtgg gaaaagaacg caagtagacg gcggcccgag aaaggagagg gcgtgggacg 180  
 tgatacagag tacgaagaaa agagaagaga gctacaaagg aggtaaaaga agaggtgggg 240  
 aggacgaggg gagggagcgg gggggcacga ggaangatcg tgaaggaagg aggaatccca 300  
 agtaatcgac gaagaaaaag cttcggtgaa agcgtgaacc gagtttgtac aactgcccgc 360  
 tcaagttctg ggagtgtg 378

<210> 2809  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E2-A12  
 <400> 2809

aattcacggg ctaccgtctc gggttatattg aagaatcatt ttccggaatg tgagcaacaa 60  
 ctagagcaat ggttggtgga tacctgtggg atcaaggaaa cgggtgaaga tttttatatg 120  
 cgttgaacg agcaacacat gtcttggttg caacctttgg aagaaagtca acgacaatgg 180  
 ttgcaaagat tgtattccac agcaccgatt gtacaattgc aagggaagat agaggagtgt 240  
 gaagatattc ggattcaagt gagttggaaa gtatcgctat cctatgataa gcaacgcagt 300



ctttggtgga atcagaatag caacaaaaga gccagtcggg aaacttggtg tattctactg 360  
 gtaaataacca acactgggaa aataagtgct tttcgaagag ttgcgtcnct gaaaaaacag 420  
 gtgacaagga cattg 435

<210> 2810  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-A5  
 <400> 2810

agcccacgcg tccgcccacg cgtccgggat gccagcctta ttggtacaag tagcctattg 60  
 tattcatgat gtgccaccta tatctacctg tgtacgcact atgttctccg agttttggag 120  
 aagtcacac gaggaatggc ccaaacaaaa gcaaatgttg cgggccgatc aaagagaagc 180  
 gttgaatgaa ttgctcatcg caccaagtta ttatgcttga agcgttgcg gcgcgccagg 240  
 gaagccaggc tcgtggcatt tttttttaa aaaagaaaa agacgaaaa aaaaaaaaag 300  
 gaaagaaaa aaaaaaaaaa aagaaaaaaa acacggaacg gagagggcga aaaaacgaaa 360  
 aacgcgggga acgcaaaaaa aaaggggggg ccccc 395

<210> 2811  
 <211> 167  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-A8  
 <400> 2811

gcgcgctcgt ggggtttttc gattcgtgtc ggcagtgttg gctgagaata ggaaaacatg 60  
 acgagatatt ccaaggaacc agagtaaccg acgaaaactt gcaaagctcg tggttcggat 120  
 agtcccgtgc acgttaaaaa cacgcgaaaa aacggacgtg gtttgaa 167

<210> 2812  
 <211> 216  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-B11

<400> 2812

gtcagcgaaa gaggtctatg agtagagaga tacgtcagag tagaatagaa aagccgtact 60  
gaagaccgac acaggtactc gatgagaaaa gagacccaaa ttaacgtgag agaatggacg 120  
ataacgaact acgcaaaatg atatggtatc tgcggtagaa catatgaaag aagcagcacc 180  
gactgttttag ccaaaacaca gcactctgca gaaaag 216

<210> 2813

<211> 382

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E2-B2

<400> 2813

agccacaaca agcatcagaa caaagtttgg gtggttccgc accgttatga ccgcttcgac 60  
cagaacagga gtatgtgaac aacaaaggga aaccaagaag aagagtttgc aaggaatcaa 120  
cggaagagaa acatccaacg agacacaagt tgaatcatgc aaaaccacga gatggcggag 180  
attttggag aagaggaaat cttcaagtta ctagaagctt ttagaaagta gttgccacgg 240  
gcagccagca gcgtgagagc tcaagaaata attgaagtac gtatttgcac cccttggctt 300  
ttgaataatt cacaggagaa agagtaagtc tggttaagttc tttacggaga aagaacagtg 360  
ggagctgtgg gaaaacgttt tg 382

<210> 2814

<211> 328

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E2-B4

<400> 2814

caacatcatc aaatgccaaa gggaggaaag aaagattctt caaagaaaga agccacaagt 60  
aaacctgcat cagcagatgc tacaaagacg acagaaaagt ctggtccgga agccaagttg 120  
aagggaaactg gtgcaaagaa acaataaaaa gttgactatg catgtgcagt cctgtgatgt 180  
tttgtgagtt ctgtttgata gtttccagct attcttttgg tagtgaataa agagaagatt 240  
tttgtagatg tagagaggga aaaagaaaaa aaaaaaaaaa aaaagaaaaa aaacgaaaaa 300

aaaagggcag ccgccccaaa ggatccaa

328

<210> 2815  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-B5  
  
<400> 2815

gaaataataa aagagagaga gcaacgacga cggagaagat gaggttattt caacgttgga 60  
aaagaattgg caactatttc atctactcgc agtactctag tcgaccgaat agtttatttc 120  
aagcagaccc taggaaatat aatatatatt tacagcatcg ggtggagaaa cacctagttg 180  
cccattctat ggttgcagca tccctacata atcctcgtcg tcttacgagt tgttcgtgag 240  
gagagcaaca ttggaaccaa gtacacaaaa caacaacaac accaagtgtg gataatcatc 300  
ctagtcgtga agaagaaaag agtttggtag tcgttcctcg tcaagagaca aaagaagaac 360  
aaggagccaa gcgacagagt cttcgagacc gaatatattc aagtttttcc g 411

<210> 2816  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-B6  
  
<400> 2816

agatcgttgt tgagatatgc aaacttccct cgcattctct tgttggacac cgttgcagcg 60  
aacttcaaag aacgtagttt gctcgtctag tttttgcaaa aatagctcta ttccgttcca 120  
tgctaccaac agaaggagtt gtgtttttcc gctgtctttt ggtggagcgc ctgtcgttag 180  
ttataagtgg gaagtggctg caaacctgca gcgaaggcag tttgggtcag tttcgatgga 240  
ggtgcgtggt gacgtaggtg aaggtgaacc tatcgattct gctatagcaa ggtttcggag 300  
agaagttagc aaaagtggc acttgtttga gctgaaaaga cgacaagagt ttgaacctaa 360  
tagtgtgaag cgacaa 376

<210> 2817  
<211> 401

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-B7  
 <400> 2817  
 agcccacgcg tccggtgtta gtccatgtgg tggtagaggt agttggatgg tttatgttgg 60  
 atcctttcca ttgtgcactt ctccaaagtt tctgtgggtt cgcgactttt gtaagtataa 120  
 aaggactaga aaaagtcccc atgggtggttc cttttgggtgc gggtcgaagg aacctctttc 180  
 cgatggcgcc aagatcacga gtaggagaaa cagcagctca ttcaggtgga agcctagtgt 240  
 acgggttcgt tttgctaaga aatggcttcc ttcgaaggaa attttgggac agtggagaga 300  
 ctcgagcac gtgacacctg cggcagggcg gtcttcactt cttgggaata gaagattggc 360  
 tgttctagaa tatacacaag atatattgaa accacttcag a 401

<210> 2818  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-B8  
 <400> 2818  
 agcggacgcg tgggcggacg cgtgggtttt cccaacagaa aatgtacaca aacagtgata 60  
 atctagaaga atacaatcaa cttgagaaaa aggttcaagt aatcacaact tgcattctta 120  
 tctcatatca tctttctatc atggaccaag tcgatgcatt cgggtgcattg ttgttgtgtt 180  
 gcttcctaga aaaacttggt gagagtgcta tgaactgttt gccagggagg gaggacggcg 240  
 ggggtgcaat gccatttat tggttggaga tccaagcgtc gtgttctgcc aacgtacaaa 300  
 ggataagcgt ccatagcaac tatatatggc acttcagct acaatgtatg caatgtagt 360  
 aaaaaacggg gtggattgca gtcgatcctt tgcaggaaac gacaagagt 409

<210> 2819  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-C2  
 <400> 2819

acgcacgcgt cgcgccacgc gtccgccac gcgtccgcga tgcggagtgg gacatgattt 60  
acgacaagtt cgaaaaaatc gtcgctacag gtgccaaagt tgtacttagt aagttggcca 120  
tcggagattt agctacgcag tattttgccg atcgagacat attttgtgct ggtaggtttc 180  
cagaagaaga catgaaacgt gtcatgaaag ccaccggtgc aagcatgcag tcgacagtga 240  
aggggcgaag tgaggagtgt tctcgggtact tgcgcattgt ttgaagagaa gcaagttggt 300  
aatgaacggtt acaacttttt cactggttgt ccatatgcta gaacagcgac atttagtatt 360  
cgaggtggtt cggagcagtt tatggatgaa a 391

<210> 2820  
<211> 227  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-054-Q1-E2-C9

<400> 2820  
gaaaaagccc agaagccaag ataaggtatc aaagtaaaga aagaaggaaa aggagaagaa 60  
gagagggtan gcttagaagc agcaaaccag agaggaaaac gttaaagcat gaaagaaaag 120  
aaatccgaaa aagaagagaa aaaggtaaga aagaggaccg aatcanggta agagggtanag 180  
gagcaagaag agaagagaga atgctgggtg gagtagcgaa acaagag 227

<210> 2821  
<211> 196  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-054-Q1-E2-D12

<400> 2821  
gcgtcagcca ctacatgagg attaggaatc taactgaata aggaaaacaa gcttaagcta 60  
gtttagctgg ggaagtaaag cctaagaaag agtaaattat gcaagcaaac gcgggagaga 120  
agtatactag cagaagcatt cttggggaag tagatagaga tttcagacac ggaataaaaag 180  
tctgctatcg agaaca 196

<210> 2822

<211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E2-D2

<400> 2822  
 cggacgcgtg ggttttgcac aaaatattcg acgtcgccat tgagcagccg tgagnggacg 60  
 tgtaatacga ggccagagaa agggagcccg tagtgtagtt cgtgggcatg tcgtcaaaag 120  
 aaaaggagca gccaagtgtg gagcggttga ttatgccgaa agacacggat atgggagagg 180  
 agtcgtcagg gaaatcatac acgacgcagg aagaggagct cctttggcgc gagtggaggg 240  
 tgaggggatg gtagagagat aagagaagag tagagacttt tatggcacca gaaggtttat 300  
 atacgggaca attcgtgtat tgtggaaaga aagcccaact agcaatcggg aacgtccttc 360  
 cacttggttc cttacct 377

<210> 2823  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-D5

<400> 2823  
 agcccacgcg tccgcccacg cgtccgggtg tccactcgtc gacgaagagc tataagggttt 60  
 caagtggatg acgagaattt acgtgcaact agcagactta gtgtcgggtg acaagcaatt 120  
 tttttgcaac ctggtgattg cctagccgat gtggatgtca tgtgcatcgt catggctcca 180  
 aaagggatcc tcggagtgtg atttcttggc agttggcaga gatggaacag gagagagagt 240  
 aggaggatta gatattccgg aacgaaaacg atatcaagta ggagtttatg tgatgaagtt 300  
 tgatcggaag aaggaaccga aagaagagct tcgatttttc cgtgcgtgtc gaagcgatga 360  
 agttgtgttg tgcaccaaca caggaagaat tgtacg 396

<210> 2824  
 <211> 369  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-D7

<400> 2824

aggttggaat tgaaaggagg gtcgacgagc tcagcttgaa gaagcgagaa cttgcgtggg 60  
gttggacgtt atttatgaac ttggactcta aggacagatg aattaatgcg ccttttgacc 120  
cgtgtgcaga cgctcacct ggatatgacg caacagtatc ggaaaatata atgcagattc 180  
gcttgcaaga tagaaatcga cgcaaataca tgacgacgag tcatggggtgac gacaggcgag 240  
tgggggtttga ataaaattac aaaggccttc aaagaggagt tttgttgcaa tcgttggtgc 300  
gtatacgacg cacaactggg aagagtcac ccatctgcaac gagaccacag ggattaagtc 360  
aatcagttt 369

<210> 2825

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E2-D8

<400> 2825

agcaaaagtg cgagcaagta agactcgata ttactagaag tgaagcgtag gttgcagttc 60  
acgttgacca agctccaaga tctgaaagca gccgcattca acagagatac gacgcacaga 120  
gagaagcgga agcaagtga cggagttgac gaagaaatgg aagctcaaga atggctccac 180  
tggatagaga caaaggcaga ttcgtcaaca ctgcacatcat tgaggagcgg ggtggaggcg 240  
agaggggaag accagcaatg gacttttctg tcttcccttt tagagaaagc ctattccacc 300  
gtcaacagcg aagatttatc agccgaatcc tgctcagtcg aacagcttat tcaaaagaaa 360  
gacgaagaaa tagctttttt gcggcaacga ctagccgaag ttgagcaagc 410

<210> 2826

<211> 169

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E2-E10

<400> 2826

cagtttgat agtttggcca ctgcacctc acatgcagta atagcgcgta caacacacac 60  
gattctgggt ccagcttttg aaagcactcg ctttgttccg tgaacacatg tcgttgattc 120

acaccggcaa cacaacttaa ggaacttgga ctccacattt gaaagtccc

169

<210> 2827  
<211> 365  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-E2  
  
<400> 2827

cccacgcgtc cgagaggtgt atgatgcagg cgaagaagtg acgcagtagg tcagggacga 60  
agacatgcag gtaggtaaag cgaacgggtg agtaaagagg tgtgagggag tggaagaaca 120  
tgagagcaca gaagaatgta agaaaggggt agagtaaaaa ccataaagga agtgggagcg 180  
ggaatctgag aggaggaaag ccacagtgga actgacaaaa ggtccaaacg agagaagtcg 240  
ggggtgggcg acgacggggg caatgtacag ggaagtatga ccagtgatg aggactggag 300  
taaacagaaa aggaagtaaa aggagggaat gaagggaagt tatggcaaaa acacgtgcc 360  
gcagc 365

<210> 2828  
<211> 350  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-E5  
  
<400> 2828

cccccccccc cccccccacc ccccccccccc ccaccccccc cccacccacc cccccaccc 60  
cccccccccc cccccccac ccccccccccc ccccccccccc ccccccccccc ccccccccccc 120  
caccgccc cccccccac ccccccgcaa cccaccccc ccaccccccc ccccccccccc 180  
cccccccccc ccccccccccc cccaacccc ccccccccc cctccccccc cccccacccc 240  
cccacccca ccccccccccc ccccccgcc ccccccccc ccccccccccc cccccaccc 300  
ccccacccc cccccaccc ccccccccccc cccacacccc caccaccccc 350

<210> 2829  
<211> 251  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-054-Q1-E2-F2

<400> 2829

ttccttcagc tgagctgaga cagagacgtg tacatagtga cttgcggaaa tccatccaac 60  
tgcgcggaac gttatcccga agaacactgg atatacgtcg gtttattgga ttgttttagag 120  
cacgttagtg gggggcgtgg cgggcgggat ccagagtgcg cggactaaac tttgcctctg 180  
atgaacgctg gttccaaata tgaatatctt tggcaagaca acgaccaaca taagaaatca 240  
accacagttt c 251

<210> 2830

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E2-F6

<400> 2830

cccacgcgtc cgagagggga ttggtgggtc acgaacgaga ggatgttggt cttttcgttt 60  
ttcaaaacgt ttatcggaac aagagttaca gtagaactca aaaacgatgt aattattoga 120  
gggaaagtac attcagtgga tcaatatcta aatatcaagt tggaagatat agaaatactc 180  
aatatagaaa gttgcccaca gttgatgact ttgaaaaatt cgtggagggg tgggggtggg 240  
aggaggtata ttcaagtata cgctatcgac gtcgactgcg agatgctaca ggaagcagcc 300  
agaagagaat acaaggagtt gaagaaagta gccaaatagg gcgcaagaca cacgttacca 360  
ttgtctatct atccacggcg tgatgaacca actgc 395

<210> 2831

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-054-Q1-E2-G1

<400> 2831

ctcagtcaga actgcttctc agttagttac gcaatatgcc tagtcataag gaacaaaata 60  
gaggaattaa aatatcagct gacgggttac cactaaagtt gagcgggtatt cggttggacg 120  
tagacggcag tttggtcact atgggtggacg cagacgacct cagagccctc atgtgtaagg 180

aaagcctcaa ggaaaagtca aagctgcatg acccaaaatt tttcaaaagc tagtatgagg 240  
aggagaagga gtacgtggta ttatatgact catacggaga agaaaatggt tctttctctg 300  
gaagttgcac gagaatacgc tactctgggtg ggaaactcgt ttctgcagaa atatttggac 360  
aaagtcattg agcacgaaca cgcatactaa gggaaccaac g 401

<210> 2832  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-G5  
  
<400> 2832

caaatggcgt cctttcgacg caggatagcc tcgctgtctt tgtgacatgt agaggacaag 60  
tcattccacg tttttccaaa gtatttagac gcgttgggaa aacttttgtc cagagcaagg 120  
ccgtcgaccg tgtgacggat gtgttgata tgtcgtagg gcaagggcct tgtggttggc 180  
gttatatgac gaatttgatg gataaagaca agtcgagggg ggggtggagg agcgggaggg 240  
ttacgttgta gttggattcg tgaaagagac gggttgtttt tgggtgctttg ttggttaagt 300  
ttgttgtctt ggaaaaatga aaatcgatca gagtggatga gcatagagga tgtgatggaa 360  
caacattgga acatgtatgg ggaaaga 387

<210> 2833  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-G8  
  
<400> 2833

gagcccacgc gtccgaattt tttttgggtc cgtttcgcat gtcttgagca gcagttcgtt 60  
cgcaggcaga aaaccaagac actcgacgtg ccaaggcact aaaggagtat caaagagtag 120  
tctcccagca tagagatatt gaaaatagag tgcgaaggct tcggcgagga agtgaaaact 180  
ctcaagcaac aatttgagaa gacggaagat gacttgaaag cttggcagag tgggcgcgcg 240  
ggtagtgggg aagttcttcg agctattgat ccggagaaat ttagtgtgaa ggcttcaagt 300  
ggtccacgtt atgtcgtcgg atgtagaaac aagatcgata gagataagct cgtacaggga 360

gcacgtgtct ctttggatat gacta

385

<210> 2834  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-054-Q1-E2-H1  
  
<400> 2834

agaaaatatg atacgacgaa aatgccaagg aganaaaagt gcaacagaaa gaaaacgttg 60  
agattgcada agtttctttt cggatattac agtctctaca ttttactcag cgagactcta 120  
caaggttgac ctaaaaaaat attatatctg agtttcccaa gcatagggtat actaggcgctc 180  
aatgactacg tattcaaagt cttcttccaa atttctgtaa ataactagga ggcgtttgct 240  
gcaggggatg ggacgaggtg actttgaata acgtttttca acgttggatt atttgccaca 300  
acttcggtaa cgttattgat gagcaccttg atagaaagat gagataatac aaagcgcttt 360  
ttcaataaaa acatacttgg tctg 384

<210> 2835  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-054-Q1-E2-H10  
  
<400> 2835

gaattaaagg gtcgacgcac gcgtcagcgg acacgtgggc ggacgcgtgg gcggacgcgt 60  
gggttcctag tggatatgtt acagaggaga ttgatcgata tactggtttc gagcaaggag 120  
ctatcaattt aacttggagt tatgatgcct ttgttactgc ggtttgggtca agagaagatg 180  
ttcacaagtt gttttctaaa tattgtgaac ctcttcttcc acctctacct agtatgccag 240  
gacctggtgg tttatcttct ccataataag aggcacttgt gcactttgga tatttttgtg 300  
gttcacataa agacaagctt tattaagaag c 331

<210> 2836  
<211> 223  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-H11  
 <400> 2836  
 cgtcagaaaa aaaataagca gaacacataa gcagacacaa taagttocta ataataagtt 60  
 tacaaaaaga aattgatcaa aataaatgag tttcaaacaa agaaaaaggg ggtctacctt 120  
 aaagtttcta agcttttgtt acctcgagtt tggccaatat aactctgttg aggtgtcccc 180  
 aactttcaat tctggggccc cttttttaa tcttctact ggg 223

<210> 2837  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-H12  
 <400> 2837  
 gcgtcaggca ttaacaatca tgggagacac taagcttaag gacggtgcta gtgctgctct 60  
 ttggacttgc cgctatttc tctatacagt tgtgttagca ttttcagcaa caataattgg 120  
 acgtgatgga aagaaggcag ataacatatg gaacgatgcc ctagattatc atggaaaagt 180  
 ggtgaacttt tgtgcatatt cggcttcgtc tgtttttgaa agtggcgacc atggcgcatg 240  
 taaatatgtg atggctttgg cttctatcag cttgatttta gtcttctatc gttggttggc 300  
 ctccattgtc gacgcattgt atccaattct tacaaagttc tggtttgtgg agcttggtat 360  
 caacatattc cttactatgt ggtggatggt tggtgcaatt gtggtgactg c 411

<210> 2838  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-H2  
 <400> 2838  
 gggtcgacct aaggtccggt gcgaaagagg acgtaggacg gcattgtgga agagcgtttt 60  
 gggtcctgga gagctcatgt ggagaacaac gattgtatcc ttgttaagaa gaaaacctag 120  
 tcaggggtta ttgaagagaa gttttgccga tcaagttgct caaggctcag aaaaactaaa 180

acttggggtt gcgagcacct acacatgccc ttcgaaagga tgctctcgtg gatatggtag 240  
 tgttcccagc aggtagtggg aggggtggggg tagttcggtc aacatgtgcc tacagttgct 300  
 caactgaaac ctgggtgtgt gactgtcgtg gaagatggca aggaggacaa atattttgtg 360  
 agtagtggat ttgcctttgt taccaaagaa cgaacagata ttttg 405

<210> 2839  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-H3  
 <400> 2839

agacttggtg aaataaagca aggagatcca ctcaatttgg agactatggt gggagctcaa 60  
 gtatctactg aacagatgga taagattctt cactatgtgc aattgggaaa gaaggaaggt 120  
 gctcagtgtg ttgttggaag aagtggaaa aaagctattg gaggtgattt agaaggtggc 180  
 tattacattg aaccgacgat attcaaggga gataacaaga tgagaatatt ccaagaagag 240  
 atatgtgggc gagttctgag tgtcacgact ttccgtacag aagaagaagc catccaaatt 300  
 gccaacgata cttcgtatgg tttaggtgct ggtctgtgga ctcgagatat tatgaaagct 360  
 tatcgcgat ctcgagcaat caaggctggg cgtgttttg 399

<210> 2840  
 <211> 283  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-H4  
 <400> 2840

cgcacgcgtc cgccacacg tccgccttcc tacaatcaat attcttcttc gtacggttcc 60  
 tctagctatc gtctcttaac tgcagacgaa aaccaacttg tgagcagagg aggttatgca 120  
 ccaacaaacc aatgtattct agttcctatc caatgctgca ctgattgcaa acaatggtag 180  
 gccgcatgga gttcctaaat actgatacag tgctcggata gaaagaaaca gatatcaacg 240  
 gatgtttgtt tctgttgacg tgaataaaac ttgtgttcat aac 283

<210> 2841

<211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-054-Q1-E2-H5  
 <400> 2841  
 agcccacgcg tccgcccacg cgtccgatcg ctataggaaa gtgagcaata cagtcttcaa 60  
 ggcaacagct ttaacgttgt cgactgctgc agtaattgga aacctataca tattcgcaaa 120  
 cttgctcagc atagtttcct acagaagttc aaagaaggag ctgacggaag ccagtagtac 180  
 tcaggaaaac tgagaaacac aagttgtctt cacgtctgga ggatggaaag atgagcggaa 240  
 actaggctgg gggctctgtt cttgtagaag ctctgggtgt ttgagaactt gcaattgttt 300  
 tgttctttgt agtaaagaaa ttgtcttcgt ttttctaaaa aaaaaaaaaa aaaaaaagaa 360  
 aaaccgacaa acgagacgcg ac 382

<210> 2842  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-054-Q1-E2-H8  
 <400> 2842  
 agcggacgcg tgggggaaag gtgaggcggg aggttggtta gagagtactc attgtgcttg 60  
 gcctgaagga ggatgagcac tatctcggtt tctctcaaga aaccggata tgattccttt 120  
 ctagggtttg ttcccatata aggtattggt ttgtcaccaa ggaagctatt caatacgtgt 180  
 tgtgctcgac cgaggagagc ttggacctct ccaaccacca tagagtgtat cgagacagc 240  
 gtcgaggagt gggttcgttg taaagtattt cgttgtggag aagaacatat atttctaggc 300  
 cctatcaaca gcttaactgg ttccaaggca ctgcctatcg agatanaaag ccaactggat 360  
 gccgacttgt tgcgttctgc actcggattc tatcgcaagc aaag 404

<210> 2843  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-055-Q1-E1-A10

<400> 2843

cacgcgtcag gtaggtgtgc tcagtcagaa ctgcttctca gttagttacg caatatgcct 60

agtcataagg aacaaaataa aggaattaaa atatcagctg acggttacgc actaaagttg 120

agcggatttc ggttggacgt agacggcagt ttggtcacta tgggtggacgc agacgacctc 180

agagccctca tgtttaagga aagcctcaag gaaaagtcaa agctgcatga cccaaaattt 240

ttcaaaagct attatgagga gaataaggac tacttttatt atatgactca tacggagaaa 300

aaaatgtttc cttctctgga agttgcacga aaatacgcta ctctgggtggg aaactcgttt 360

ctgcagaaat atttggacaa agtcattgag cacgaacacg cataactaagg gaaccaacg 419

<210> 2844

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-A12

<400> 2844

agcccacgcg tccgccacg cgtccgattt cattccgtgt ttttgggtacc atttgttgaa 60

gagattcaag taaggaattt gggatttctg tttatgacac tttgggttatg tggtcgggtca 120

tcagaactta gcaactggct tctcgatggt tcactttacg aattttgctg gccttcgata 180

ataatcatct ctctaggatt tggttggtgc cataccagat atgagtttga atggttagct 240

ggatttcttt atggactcat gggtcaggtg gtcgctataa aggataaaaa tgtcataaat 300

gcaatccagt ccactgtatc acaaaccttt gtttaaatgt ttacattttg atgtctggta 360

acttttattt gtggtagttt gactttgcaa ataggttttc actatttggt tg 412

<210> 2845

<211> 434

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-A2

<400> 2845

agcccacgcg tccggacaaa aatagataga cagaacaaga ctggtgatgt cagagatttg 60

gagaaaaata cgagctacca ggagaaatat gattatcttc tcctttcacc aggtgctgaa 120

cctattcgtc cgaagctgga aggaatcgat ctagatggcg tttactccgt aagagacata 180  
cctgatgctt cgcataattaa agaatggatt gccaaaaata atgctaaaag tgcagttggt 240  
gttggaggtg gctttattgg tttagaaatg gctgaaaact tatctctttt aaatttaaag 300  
gtccatgtag tagaagctct ttctcatttg atgcctgcaa tggatccga aatgttgcct 360  
ccactataca gaaagatgga agagcatggt gtggacataa tttttcatga tggattgaaa 420  
agtatagtga agga 434

<210> 2846  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-A8

<400> 2846  
agccacgcg tccgccacg cgtccgaaac acaagacaac aatgtctcgt cccaagtgtt 60  
tctttgatat tgctatcggg ggacaacctg caggaaggat tgtattcgag ttgttctccg 120  
atgtcgttcc taaaaccgcg gaaaatttcc gtgccctgtg taccggtgag aaagggtttg 180  
ggtacaaaga ctccaagttt cataggatca ttccccagtt catgtgcaa ggtggagact 240  
ttacacgcgg cgatggaacc ggtggcaaga gtatttacgg caccaagttt gaggatgaaa 300  
acttcaagtt gaagcattcg gagccctttt tattgtccat ggccaatgcc ggaacgaata 360  
ccaaccgaag tcagtttttc attacggtag tgaagacacc ttggttgat gggaagcatg 420  
tggtgt 426

<210> 2847  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-A9

<400> 2847  
acaacatcac attgaaacac ttcgaggaca cgaacaagaa gtttgtgggt tgaaatggaa 60  
cgtcgatgga actcagttgg cttctggagg aaacgataat ttgttgatgg tttgggataa 120  
tcttactcc agtcaaccaa aatatcggtt agatcagcat cttgcagctg taaaagccat 180



tgcttgggtgt ccttggcaat ctcatttact tgcaagtggg ggaggaacag cagatagaac 240  
 gatcaagttt tggaatacta caactggctc ctgtttacag tccatcgata caaaaagtca 300  
 agtatgtgcc ttgctctgga atagacatga t 331

<210> 2848  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-055-Q1-E1-B1  
 <400> 2848

agcccaagcg tccgcccacg cgtccgggtca agtgggtacag tcggaacaag acctgaaaag 60  
 ctgttttgaa cttagaaagc taatattcgt tcaagaacaa ggagttaggg aagatagaga 120  
 gcaagatgaa tacgatcgag tggattcaac cgttgaaagt ttgggtccca gatggaaagt 180  
 taaacacttc ataacctggt taggtaacca agtgggtgca actggtagag ctcgtcgtaa 240  
 ttcgatgttt ggaataaagt tagaagaat tgctgttcga aaagaagaac gtataaagca 300  
 cattggcgaa aactgcttc aatttatgtt gagagaaata cagaagaaaa atgcggctat 360  
 taatttgcac tcgcagaacc ctgtgggttac gttttatgag agtttgggct tttcaact 418

<210> 2849  
 <211> 115  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-055-Q1-E1-B3  
 <400> 2849

caggtatcac cctaagctac ttgatcttat gctgtccaag cgaagtaatg ctgaaccaat 60  
 atctgtggca aattatttgc aagatatcgc ataaagcttg agatgccact caatc 115

<210> 2850  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-055-Q1-E1-C10

<400> 2850

ccacgcgtca gtcaggaagc gatgaaagtg gaaaatttat gtcaaggtta tatccgctgg 60

tgtgcctttt ggtaacgctt ggtggtacac caaaaccaga gtatgtcaag tagtgggaaa 120

aaaagtattc tcctaccgaa ccatctcaat gtggagaaac caccctgttg tccatcgctg 180

aaaacgatat gtctccactg gattgctcga aatactgcac gcgtaggtga actgggggat 240

gtaccggatg agttgatgta caaagttggt tgtttatgtg gagcaaaaga cttggcaaga 300

ctggaagaca acaaccctgg aagagaagca gtgntgaag cactgtgggc agcgttgctg 360

aagcgagatt ttagtangga agaagggaat gaaagccat cacaacacca ccatgtggca 420

agt 423

<210> 2851

<211> 141

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-C3

<400> 2851

catcatgcat tgtagagttt gcatgtgcta tatcagtaac aatcgactat agatacttaa 60

agtcattctgc acacgtggtt atcggtatgcc atggaaggcg cagagtccac tgacgtgcat 120

ttgattcatg gatcgacgtt a 141

<210> 2852

<211> 287

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-C5

<400> 2852

cggggcgacc caagcgtcag aacacgcgtc cgcccaagcg tccgccaag cgtccggata 60

atthttgtaaa taaagtcgta atthttccttt caaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120

aaaaaaaaag aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaggg aggaagatca 180

aaaggaataa aagattaggt aagaaagtaa gaaaaagtga aggtcttcaa agaggttact 240

gaaaggaaat taacgggcgg tagttaaaaa aagtcgggag ggggaaa 287

<210> 2853  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-055-Q1-E1-D11  
  
 <400> 2853  
  
 acgcgtcagc ataagcaaat cattaaccgg aggaaaagaa acaaactgga attcccctat 60  
 tatcggcgag cgaagcggga agagccacta tgagaatcct ccttttcctt tgtgaaaaga 120  
 ggagatgtat ttgaaaaaag acaagaaata tctgcagcaa gaaaagagca aatttcctgg 180  
 aatggaatat catggagggt gagaatcncg tttatctctt ttctttgtat tcaagctgcg 240  
 ttacgatatt ttttgttggt gagtcggggt gtttggtagt acagccttaa ttttgtgggt 300  
 gttataaatc atccaaggct aaatacgtaa agagagaccg atagcgaaca agaacatgag 360  
 gaagaaagag gcaaatacgg gaaagcagta aaagaagaaa gagaaaggaa aaaactgag 419

<210> 2854  
 <211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-055-Q1-E1-D8  
  
 <400> 2854  
  
 acccacgcgt ccacctacgt ctctgcagtt gagtgaaagt gcgttggtatt tggcaatggt 60  
 tcaacggtta ctgacgtact tgagtgcaaa tattctcaca agacattggt caaagagtgc 120  
 ggaagtgaca tttaaagttt tacacgatca ctttaacttt tctttgagca tgaatgggag 180  
 aaataacgtg tatgctgaat ctgtttgtgt gtgaatttga agaattgacat ttcgcttctg 240  
 ctgatgtaat ataatttaca tgggtttaagt ttggtatgta tcatgtacag aaatcttcgt 300  
 atcaacttac gtcatttctc gtacgatctt ggtataggga tacca 345

<210> 2855  
 <211> 178  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-055-Q1-E1-E1

<400> 2855

acgcgtcagg gaaagaagaa ggtaaaggaa gagaaggaag aagcagagag ggactatgag 60  
cgaaaatgtg gatagtcgag agggaaaaag ccagaagcc aagataaagt atcaaagtta 120  
agaaagaagg aaaaggagaa gaagagaggg taagcttaaa agcaacaaac cagagaag 178

<210> 2856

<211> 405

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-E11

<400> 2856

aggacggggt gtttggtagt acagccttaa ttttgtgggt gttataaatc atccaaggct 60  
aaatacgtaa accgagaacc ttacctctcc aagaatgtgt tgcacggctg tcgaaagaac 120  
gtgctgtgaa gtgagagaac gtacgagaaa gccaaagtga gaaaagaagg caagtagagg 180  
gcggcccgag aaaggagagg gcgtaagacg tgatacagag taagaagaaa agagaagaga 240  
accagaaaag aagttaaaaa aagattaaaa gactaaaaga agtacggaat tcacgaagaa 300  
cgagcctgaa tgaaggagga atccaagta atcgaagaag aaaaagcttc ggtgaaagcg 360  
tgaacggatt ttgtacacac tgcccgtaa gttctggaag tgtgc 405

<210> 2857

<211> 426

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-E6

<400> 2857

agccccacgcg tccgccacg cgtccgctca gtacttgtct gaattctgca gaaggaaatg 60  
ttacggttga cttgtcgcgg cagtgtagct tgaaggatat attttcattg aagcttctcg 120  
acaataactt taagttggcg tgttttaatg atgccttggt tttagtttta ccaggcttat 180  
cctttgttat tactggtaat cgtatattct gtagacgctc ggacttgaat gaaacggaag 240  
cattggagtc ctgcttttcg tttatgaaga tatgccccac gtacaagtcg ttggagattc 300  
ttttggaagg cgagcaaatt tatgtagaag aactcgtgcc tattgtattt cgtttcggtg 360

aagaacttcc tcactttctt tttgacaatt ggaaaaccgt aagttacggc tctccctcga 420  
agaagg 426

<210> 2858  
<211> 155  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-E8  
<400> 2858

cgtcagaaaa ttcattcatc gttgctcact cttgttgcac atatgacatg tcgtcgtaga 60  
cgtggtaaac gtttatgata acgacgtgca taccgtcatc ccatagtctt gggagacagt 120  
atccacggaa taatcaaatac agctatccgt cgttt 155

<210> 2859  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-F12  
<400> 2859

cgcgtcagca gacgtacaaa agttttggca caaaaactgc aaaaccacaa acgctcgcta 60  
cttgatttaa catgccttcg acgaatgcc aagaacaaagt tcccgatagc cggtcgggta 120  
tgaggagacc caaccaacct ctaggtattg tagatactgc caagtcggaa gagttttccc 180  
aaggctctct ttctttattg gtggattgtg tgaaagatgg tactccagtg ttgatcaatg 240  
tgaggaataa caaaaagttg ctaggaaaag taaaggcttt tgaccgtcac tttaatatga 300  
ttctagaaaa tgtcaaagag atatggacag agataccaaa gagtaaaaag gctagaccag 360  
tcaacaagga tagatttatt ccgaaaatgt ttttacgtgg tgactcggta g 411

<210> 2860  
<211> 347  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-F5  
<400> 2860

agagtcgatt ctcaaggaaa gatacaaaca tatgttgcca acagagaatt actgctggat 60  
atgtgcatcc actcaaaacc tggggtagat gtaaaccaaa agaaacaacg gttattgtca 120  
ttcttagcta gtcaggagcc ttgttatctg tgggaagaag aagatcgtca tcaagaacca 180  
caaatagata gtttatatat ctctagtgtc ggttacaagg cgatcatttt aagggacaag 240  
atgttggttg ttcacaattg gtccttgat ggagaacaac ggtgggggtga tggatgagaa 300  
taatagtttt gcatatttca tgtcttcag tttttatatt atgtttg 347

<210> 2861  
<211> 274  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-F7

<400> 2861  
aacagtagct tagacagtaa catatgcttc taggttcagc gaacgggtga gtaaagaagt 60  
gtgaaagagt ggcagaccat gaacgcacag accaatgtta gaaatgggtta gagtaaaaaac 120  
caatcatgga tttatagcgg gaatccgata cgaaggaagc cgtaatggaa ctgaaaagtt 180  
gtccaaacaa gggaattcag cagtggggat atttggccaa tgtacagggg agtatgacct 240  
agtgttgaag agtggagtaa gcagaaaggg aagt 274

<210> 2862  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-F8

<400> 2862  
aggggatgtc gtcgcaaccc gtcttagtgc tttgcgactt ccaaaatgat attatgggtt 60  
tcgttcccc tgagaagaag gaagccgtca ttaaaggagc ttcgaaactt ttgaactttg 120  
cccgtgagaa gaagatccct gtagttcatg tgggggtacg ttttagaccg ggacaccctg 180  
aagtttcgaa acgaaacaag atgctttctc ttgtttcctc cagaggcccc atccttgtgg 240  
aagggtactcc tggaagtgc cacgtagcag agttgaaacc aattgaaggt gaattcagtg 300  
ttacaaaaag aagagttggg gcacattata ataccgatct tacaaccatt cttagccgct 360

tggggcgcta cccacctgat tttgggaggt gtttctacaa gcgagttat tctgtcgacc 420  
gttcgttg 428

<210> 2863  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-G1  
<400> 2863

acgcgtccgc ccaagcgtcc ggtgcaacga tggagaaagt gggaaggaa aaccgcttga 60  
agaggtgcaa acagggaaac tttttgcgtt attatctgaa gaactttgta aagtatgtat 120  
actggaaaaa gttaccgtga agagtttagg ccaacaagaa ttggcaactt tttgtttcgt 180  
caactccgcc ttggtctgca aaatagacct tgaaagtcac tctagagcga tggttcgcgg 240  
tattttcaga ctcttgtttg ggaaatattt ctgtaacaag tttgggaaaa ggaaaacaag 300  
tatttacttg gttgtattct ctgagaatgg attttttgcg gggaaacgac ttgtcgggag 360  
accaagttcc aatggtccac ggatcactgt gcaacaaata ttgattgcta tacgttcccc 420  
atttgctggg ttgtagat 439

<210> 2864  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-G11  
<400> 2864

ccacgcgtca gtagatgaga cgcttgaacg aaaactacgg agatagacat accaacaaaa 60  
catcggcgac ttgttccgtc gttccaagaa attgtgccgc tgtggttttc aagctatttc 120  
gaaaactttg gggcatcttt tcaaaagcct ttgtccaatc gcccgataac attcgttcca 180  
tagctatctg ttccagttgg tcaatccaac gaccagcga catggcacgg tgctgataaa 240  
agtacgttgg actcaaataa ataaccacca acaaaaaaaaa aaaagaacta aaaagaaaac 300  
aatcaaaaaa aattcggagg aaaaaccaca agatcaaaac aaaaaatata gatgattaag 360  
acatcaaaca aacttctata attctaataa aaaagggggg gccc 404

<210> 2865  
 <211> 458  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-G4

<400> 2865

cggtcaggaa tatcgggccg agccacgcgt caacccaagc gtccgaaccc gtgtagtcta 60  
 tgcagtaaaa gaaagaatga gtaagaaaaa agggagtcac tccaccaggg gagtaaaggc 120  
 gcaagaaaga aacccaaagc aattgacggg aatcggaaaa aggggtggat cacgtaaatt 180  
 aatccgatat aaaccgagaa ccttacctct ccaagaaggt gttgcacggc tgtcgaaaga 240  
 acgtgctgtg aagtgagaga acgtacgaga aagccaagtg aggaaaagaa ggcaagtaga 300  
 gggcggcccc agaaaaggaga gggcgtaata cgtgatacag agtaggaaga aaaactttta 360  
 gcaaatacac gaacaatgcc aaaaaagaaa aacctctcgt cgtaaagaaa agtgtacaga 420  
 atcttctatg gataaacgga ccaaggaaat atacttgg 458

<210> 2866  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-055-Q1-E1-G5

<400> 2866

agcccacgcg tccgtgtgtg gtgacttggg tgaaaactta tctctttgtt cgttcttgtt 60  
 cttgtctttc tacaaaactt gcaagtggaa aacaagtagc agttgattca agttggaaaa 120  
 gatgtggaca gttcaaggga aatcgttcct tcttccatgc tgctcctggc actcttaaca 180  
 aagcaaggtc cagggttttct gtttccatga aaaccgaagc ttgggttaaag ttgataaaaa 240  
 ctgagcaact aaagccggga gacttgaaac cttttttcgt tgctggccag tctttgctag 300  
 tagtatgtga ctatgacggc caagtatact gttctgcca cgtttgtcca caatttgga 360  
 caacaattgg atcaaggaac ggtatctagt ggtaacttga tatgtgcca gcataagact 420  
 tc 422



<210> 2867  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-055-Q1-E1-G9  
  
 <400> 2867  
  
 ccacgcgtca ggaaattgga tttgggtttg tgacaagtat aaagcaaaca gtgcacctgt 60  
 attattatcg tttttgttgt tgttgtaaca gcctgtgtct ctctaaagag tttcttgaaa 120  
 tgcagagagt tggattgggt ggtgattcgg tcaccaagct tcacttgta aggcgagtt 180  
 tctcgcaata tgcaagacct tggaataatc ctgaaggaat atatgccttt gtcgacgtt 240  
 gaaaagattg gggctcccta cccggtagag aatggactaa tgatgagcta agattaaaaa 300  
 cctttgacga cttgcacaag ctttgggtggg tccttataaa ggaaagaaac gctttgttaa 360  
 ctgaaagaga ctggtg 376

<210> 2868  
 <211> 97  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-055-Q1-E1-H1  
  
 <400> 2868  
  
 acgcgtcagg agggaataat gtcaaaataa aacagaatga tatgaccccg gaaagttttt 60  
 ctgaaaaaaaa aaaaatccaa caaaaattcc atgcaaa 97

<210> 2869  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-055-Q1-E1-H10  
  
 <400> 2869  
  
 acgcgtcagt gatgggtgga gtagcgaaac aagagaaggg aagtaaaagg taagaaagag 60  
 gaaaggttta cgagagaagg aagtagaaag aagagagtgt aaggcggcgt cataatagaa 120  
 atccgaaagg agtagaagaa aagagagaga agaaagaaaa gaagagaaaa gccgtactga 180  
 agaccgacac aggtactcga ggagaaagga gacccaaatt aaggtgagag aatggacgat 240

aaggaactag gcaaaaggat atggtatctg cggtagaaca tatgaaagaa catgaggaag 300  
aaagacgcaa atacgggaaa gcagtaaaag aagaaagaga aacgaaaaaa ctgagtatca 360  
ggaagaaaag agggagtaga tgaggacaga aagatcaagg aagtaagagt aagagaagga 420  
gtaatg 426

<210> 2870  
<211> 228  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-H3  
<400> 2870

agcggacgcg tgggttttta tggaaagata taccgagtca tttattgaag aacttgacca 60  
attttgtgat tgtattctgc atgacaaacc tgttccagtg acagggtggg atggaagagc 120  
tccagtcgtt attgcgttgg ctgcgaagaa aagttatatg gaaggacgtc ctgttcgcat 180  
agaagaagtg gattatagtt tgtcctagta aagtttgtat tatttttg 228

<210> 2871  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-055-Q1-E1-H5  
<400> 2871

agacttggca aaagcaattg ataagagaat gtggccacat tcgcatacac ctcttcgaca 60  
gttttcatct cagttacctg aagaagtact gaagcgaatt gaaagaaaga cagatttgga 120  
aattgatcaa tacctagatt tatctccagc ggaattagga gagttgtttc gaagtccaaa 180  
agatggcaag acgattcatc gcctattaca tttattgcct agaatggaat tggctgtcca 240  
tgtacaacct attacgcgct cgactattcg catggaattg actttgactc ccgatttcct 300  
tttcgattcc aaggtacatg gagcaggaga acctttttgg atctgggtcg aagatcccg 360  
tggaagaaaa ctaatgcatg tagaaccttt tttctgagcg cgagttaaag tcaagaggag 420  
catacag 427

<210> 2872  
 <211> 354  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-056-Q1-E1-A1  
  
 <400> 2872  
  
 gagtgtgcgg cctgccaaat agtagagaag aaatcgatga aagtgaaagc gagtaaaaga 60  
 tgaggatatag agaatggcgg tcctaactgt aaggatccaa aggtagcgaa gtaaataagac 120  
 gtttgaaagg cgtccagtat gaaaggagaa acgagtgtag cactgtctag tcgtccaact 180  
 cagcgaaaca gcaataactg tgaaaatgca gtaaactagc agtaggacgg aaagaaccca 240  
 taattcttga ctagatacgt ttacggaaga gagagaaatca tgaagtagag gacgtgggggt 300  
 aagagatgag agaccactgc atgaggataa agaatactaac tgagtaaaga aaat 354

<210> 2873  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-056-Q1-E1-A12  
  
 <400> 2873  
  
 agcccaagcg tccgcccacg cgtccgattt catcgattgt ggtgagtgtt gtgggtccgt 60  
 ggcgtcgtcg tgggggtggat tgtgtttgtt gtgtgtgtgt aaggaaaccc gatgcaaaac 120  
 gtgcaaaaga aaattgtaga tctttatgtt cctagaaaat gtgctgcttc taaccgaatt 180  
 atcacggcaa aggatcacgc ttctgttcag ttaactgtag cacaagtaga tgcgcaagggt 240  
 cgagtgcag gagaaacaac gacgtttgct ttgagtggat ttattagaac caagggatta 300  
 tcggatgcag cggccaacag gatattgtgaa gaaaaggac tgctcaacga ccttcattag 360  
 aacaactata aaacaacaat agcgtttttc ttttggatgt 400

<210> 2874  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-056-Q1-E1-A3  
  
 <400> 2874

cccacgcgtc aggttttccg aagcattcag tctttatcgt caattgattg taactcttcc 60  
 atttgtctcc gtagtggacg attcgcaatg cagtctttgt atggaaatgc tgactacttg 120  
 tagagaatat atcgtcggac tgatgattcg taccaaacaac acggaagcca aatccaaagg 180  
 agatttcgtc cgacagttgg aattggcagc gctcatgaag cactgtaata tgtcgattac 240  
 gcatcaacat ttggcattgc aagtagctat gaaattagct tattctacga agaactatcc 300  
 tttatgcgct gaaatttgcc gatcgattgt tggagttggc acccaatgaa gatatggaga 360  
 atactgccaa aaaagtgaa 379

<210> 2875  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-A4  
 <400> 2875

atcgacggag cagaatattt aagaaatcat cccaacacct tcgatgtgat cataaccgat 60  
 tcttccgacc cagttggtcc agcagatgtc ttatttcaaa gaccttttta tcaaagtctc 120  
 catgccgcac tcaaaccgga tggcatttgt gcctgtcaag cagaaagtat gtggctacat 180  
 atggacctca tacgttcttt gatggaaact tgtcgaagta tttttgcttc cgtggcttat 240  
 gcttatacta tgattccttc ttatccagga ggacagattg gtttcgctat ttgctccaaa 300  
 tcggtacgtg atagcttgac gaagcctcta agagaaccaa atgcagttac aactcagtcg 360  
 ctgaaatatt actgtcctga gatacatgac gcggcatttg tattgccact ccttgcaaag 420  
 aga 423

<210> 2876  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-A5  
 <400> 2876

accaatacta ttttttcttc aaaatttact tcgacacaaa gcctgaacga ttccaagacg 60  
 gcgcagtaat cttgttctcc acggtagctc gcctcgacag aaaaagacat gttgagctgg 120

ctacaaaaaa accacttgct agttgcaata ttacaagtgt caagaatggt tactctttat 180  
cgagtcacag tgcgtctttt cccctaattt ttctttttcg gtgtcgacga gtgcgtagac 240  
atgtcgtctt ggtaacgcaa cctctatttg aactctacg tttctgtgc agcgtcgaac 300  
tacctaaaac gcaaagcagc aaagtcccaa agtttcgact ctttttggtt tctcc 355

<210> 2877  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-056-Q1-E1-A6  
<400> 2877

agggcgctgg tatggattta tttaaaggatg aagttgatat gtccaaaaga gatgcttcgg 60  
gtaagtatat ttgcgcaaaa ggagaacttt cctagacgac gccacttggtg tcaggtaata 120  
tcaaaatgcc agatattgga ttgttcttga aagaccacat cagtgcgtgg tttaccgagc 180  
aagtacgaat ggaaataact ctcaagtata ttgatcctac ttatatgatt cgaagtatac 240  
ctgcaaatgc aagtgactgt ttgatgtgtg gtttattggc ccaatcagcc gtacatagtg 300  
ccatggctgg tcgaggggtga gattttcttt ctttttggtt gtcacaggaa ttgtttttgg 360  
taattgctga cgatatggat tctagtgggtt ttacaattgg agttatcaat acccaata 418

<210> 2878  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-056-Q1-E1-A8  
<400> 2878

acgatgacat ttctcaccaa aaaagatgtg gaacattggt tcgatgtgat atggtttagc 60  
atatttgata tccaatattc ttgtttatgt tctttgaatg ccttgaacca gatgtgtcga 120  
acctacagcg tgtctgtgcc ggctggcgat gactttgaat ttccaaactc tccttgctta 180  
agtgactggg atctcgttca ttttgtttcc catagcaacg aacctgtatt tcgtgtattt 240  
cacaagtgca tcatgtgctg ctttttagaa caaagaatac ttgtctttcg ggatggcctt 300  
tgtatactga acaattccaa cagctgggtt ttgttggatg ctttgcgtga tatcacaaaa 360

tatgaaacgg acaaagaaaa cccgttcttc tagttctttg ccgtttgtca agcgttgatg 420  
aat 423

<210> 2879  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-056-Q1-E1-A9  
<400> 2879

agagttggtg aggagatagc aaaggttatg aaaatttttag tcagtgtaaa gcgtgttgtc 60  
gactatgctg ttaaagttcg agtaaaaccg gacggttccg gaatagatct caacaatgtg 120  
aagatgtcaa tgaacccggtt ttgtgaaata gctgtagaag aagcggtagc tttaaaagag 180  
tcaaaagttg catcagaagt tggtgttgct actgtgggac cttctcaatc ttctgaacaa 240  
attcgtactg cgtttagctat ggggtgctgac cgaggcatat atgtgcaagt ggaacaggag 300  
ttgccgccat ccgtcgtttc aagagcttta aagggcattg tactaaacga gacaccaagt 360  
ctagtaatat tacgaaaaca agcgatagac gaccattgta accagactgg tcaaagtgtg 420  
gggcaac 427

<210> 2880  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-056-Q1-E1-B2  
<400> 2880

accacgcgtc cggttggaag atatttatcg gatggtttaa aacaaaagaa atagccaaac 60  
tcagtagtaa tgagccagga ggatgaggac aaggacaaac ttacgcttca cttactagat 120  
tggttgacg catatgcagc agtacaagaa gtgatcacia aacgtttggc tgacatcatc 180  
catttgctga gccgagaaaa gtttcacgct cgcgggtggg gagaaagact agatgtgctg 240  
ttgttgacc agcgacctca tccagcgact tgtaagtgca ccccgaaacga aaagagttta 300  
aacgttcaa cagattggcc tctttccacg aaccttttac agcatttctc gtggagtgtg 360  
attcacgaaa gcaaagaatc ggatttagaa gagttttgtt tatcaacgac 410

<210> 2881  
 <211> 394  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> Clone ID: LIB190-056-Q1-E1-B3  
 <400> 2881  
 accacgcgtc agcgatgatt cgatgcggca caagacagtt gtggtggcaa ctgcgcgctc 60  
 gttatcatatc aactactact gtccatagag tagcaggaga agaagaaaag gaatcggctcg 120  
 gtataaagcc caaacgtttg catcagcctc ttggagttaa tccacaagga accaatctgg 180  
 aagaagtggag agaaaagtgg caaagtgacg ctatggaact tatctcgaaa gtacctccga 240  
 tagtagtcga tggctatgtc atagcgtgta atggaggcgg tgggtccatta ggacatccaa 300  
 tagaatatat tcgtttggaa gcaccttacc cttcaacttg caaatattgt ggtttgcgat 360  
 atatcaacaa agacactttt gaaaagtggg aaaa 394

<210> 2882  
 <211> 409  
 <212> DNA  
 <213> *Cyanidium caldarium*  
 <223> Clone ID: LIB190-056-Q1-E1-B7  
 <400> 2882  
 cccacgcgtc cgcaaacggg aggagcgcgc cgttcctcct gctgcagcaa catgggcaat 60  
 gacatggaag ccgagttgta atgacatgaa aattcggtaa agtcagaaat cgaattggaa 120  
 cgaatcctgg aagtcgtttg atgaacttca ctggacgaag accaggatgg cggtggcatt 180  
 ctctgcgttc catctgtact actttcagtc tcacagctgt ttaaactatc caaggaagat 240  
 ggatactggt caaacatttt cctttcagta gacattgcta ccttttccaa tccaccatgc 300  
 tcaggaattg aatgcacatc gccctattga tgtctattag ctaatatctt tgaattgcag 360  
 cttaagcaat accttgggaa tccatttgct agtttgacat tgctctaaa 409

<210> 2883  
 <211> 440  
 <212> DNA  
 <213> *Cyanidium caldarium*

<223> Clone ID: LIB190-056-Q1-E1-B8

<400> 2883

gggaataaaa ggtcgcaatg gaacagcaca acaactgaac agtcattgtt tttatcgtgt 60  
ccaatattgt tgagcacagc gttccacgag ttggttgttc aagtttctta tcccgaagt 120  
atatacaaag tcctccgaag aaacgttggt ctgttttagc gagtattttt caaagcttct 180  
tccctgcgga gagcaacact tccaaagtag tgcaactgga agcttgtaac atttctcacg 240  
acgcacagca agctgttttt gtggacaaca tggttggaag agcacgaacc ttagagaatg 300  
ttaaccttga aatactggag ggagagtttt tgttgctcat cggtgagaat ggctccgga 360  
agagttcttt gttgaatatt ctggccggac tggacgtacc tgatcaaggg tatcccaa 420  
ggtatggcaa gaagatcaag 440

<210> 2884

<211> 394

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-C1

<400> 2884

accacgcgtc cgcccacgcg tccgcccacg cgtccggtcg attccaagta gcgatggcga 60  
aaagtgaacc gggggtgata tacatagggt acttaccgca tggtttttac gaaaaccaac 120  
taaagggctt tttctctcag tttggaaccg tgctgaaagt tcgagtggca agaagcataa 180  
aaacttatcg accaaagggg tatgcttttg tgatgttcgc gaaccgagaa gttgccgaaa 240  
ttgctttag agctatggac gggtatttca tgtataacaa aattttgggt tgtaaaatgg 300  
taccaccaga gaaagttcgc ccgaatatgt ttagaaagtt cgtgaagatt ccctggaaga 360  
agctagaaaa gaaccgccgt gctttgccgc tcac 394

<210> 2885

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-C2

<400> 2885



tgggttggttg gttgcgcccc tggagcattc gatgaacaaa gtattggaac agctgtaggt 60  
 atagttttgt tgcaacatgg tgcacatatt cacttgaaaa aagggcaaag gagccaaaag 120  
 taaaaggata tcttggttac gattgggaag ggctgtgtat tgcgtgtgag tttttttgta 180  
 ctggttggtta ctcacgtcac taaaggaaac tcgtagcaag ggggtgtggcc ccgtcgcagt 240  
 cttcaggttg gatcacaaga ttagctgaag cttcacttat gttgagaaac gatatgaaaa 300  
 gtgatgaaaa gcaaccacct ctcgttcaag tcgatttggg aaaatatgtt gtagcaataa 360  
 ggcctatgga aaatgtaata atgg 384

<210> 2886  
 <211> 283  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-C3

<400> 2886  
 agtgattgga aagatagcca aagaaagcta ccaactggaa gtagttggtc tgacaaggta 60  
 gctcgttctg tgcctagttc tattgcacaa caacaaacga attcgggtacc tacggacaaa 120  
 agaaaggagt cagaacgagt ccattcttcc attggatttt gggactacat agatcagtct 180  
 ctggaaacaa aagagtcgaa gcctcccaaa aaggagccta cttcctcgac aaagcattcc 240  
 gttgacaaat acgaatcgct agacaagaac aagtcctttg gag 283

<210> 2887  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-C5

<400> 2887  
 agagtgcagt gaaggaagca ggtgctattg gtgacgaaat ttccaatgca aaaaatggaa 60  
 cctcagtgga acatgaaagc cttcctgagg aggaacaagc aactgtggat cctgacaaga 120  
 tgagtaagcg ctatagagca tcctggttta taactgctgt acttattgca gctgaaacgg 180  
 cttctttctg aatgttatct cttccctctg cgggtacaaac tctaggatat gttcccggaa 240  
 ctattctctt agtgactttt ggagctgtgg ctacttatac aggttacttg attcacaagt 300

tctgtgagaa tcatagagaa gtaagacatt acgacgaagc agctgggtatt gttcttggaa 360  
gagttggaag agaagtcata tatgctgggc aaattatcct ccttatttgt g 411

<210> 2888  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-C8  
  
<400> 2888

accacgcgtc cggaaggag ggtcgacgag ctcagcttga agaacaaaga acttgcggtg 60  
ggttgacgt tatttatgaa cttggactct attgacacag gaattaatgc tccttttgac 120  
ccgtttgcag acgcctcacg tggagaggac gcagcagtaa ccaaaaatat agtgcattat 180  
cgcttgcaac aaagaaacgg ccgcaagtgc ttgacgacga ttcaagggct tgacacaaaa 240  
ttggatttga ataaaattac aaaggccttc aaaaaggagt tttgttgcaa cggttgtgtc 300  
gtagacgacg cagaactggg aagagtcac caactgcaag gagaccagac ggataaagtc 360  
aaaaagtttc ctagtccagg agaaattagc tgaaaaagac ctgatagagg tgcacgggtat 420  
atgagtgt 428

<210> 2889  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-D12  
  
<400> 2889

agcgttttgg tgacaaggaa agataaatgg tcgtcaaaac agaaacctgt agtttttcag 60  
gtttccgcat ctaccccgga aaaggcactc gatttgtgcg cggggatggc aaactcctca 120  
tctttagtaa ccgcaagtgc aaatcctact ttcattatgcg taggagaccg gcagagttga 180  
attggactca gttgtatcga agaatgcaca aaaaaggaca gcaagaggag acacagaagc 240  
gacgtcgtag gcgcaaagtt gctgctgtac cgaaaccggt ggaaggcgcg tcgttggaa 300  
tgatcaaagc aaagagaacg caacgcccgg aagtccgaaa aactgccaaa gaagcagcgt 360  
tgaaggaaat ttaaacaacg ccaagctgct gcggctggaa aaagaaaagg tggaagagga 420

gatgcgac

428

<210> 2890  
<211> 228  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-D2  
  
<400> 2890

gtgcttagaa atggccaaaa atctttgcac caacttttcg gtctattgac tttcaaaatt 60  
tgcaaccagc gcaatgaatc gctgcggtca atgcaagctt cgaagcaaaa ccgctagagc 120  
attggccagg agatcgtctt ttcgttttcg gaaacgcttg atacagaaat cgagagaata 180  
tccttgatgc caagtgaata aagcttatac caacaaaaaa caactaag 228

<210> 2891  
<211> 446  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-D4  
  
<400> 2891

accacgcgtc cggatcatca aatagaggat caaaaagaca cagaacgtcg acagtatttt 60  
gcagttgaca agtatgagaa ctgtcaacta ttgtagactt cattttttat tagccatacg 120  
taggctccat caatatgttg atcaaagcaa gaggaagta gtggttactg gagtcggcct 180  
ggtgacacct ctgagcgttg gtacgagtac tagttggaat agactgattg ctgggtgagtg 240  
tgcaagtggac agaattcgag cttttgatgc gtcaaggttt cctgtacaga ttgctgccga 300  
cgttcctaga agcagttggg atggtttggg tccgtataga agagtgaatt gtaaagtttt 360  
gcacgatgag gagtattttg atgccacaag aatagtacgg ttttctgagg aagacaagag 420  
acagatacca gaggtttatac agtttg 446

<210> 2892  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-D5

<400> 2892

accacgcgt ccgcccacgc gtccgcccac ggcgcgcgcc acgcgtccgc attaatctta 60  
tatgttcggt ggagtttttg tagccaactg ggagatttga gaatatttta caatagtttt 120  
gtgcagcatt tatccataca gccttctgga agtgtaagca tttcgaagca aatgcctcat 180  
ttcaaataata ttccaccatt caactctgca ataagtggag tttgtagttc cggaaggaa 240  
ttatactctt tgaatgcttg gaagtcattc tacgataagt atttgtccga agatggtata 300  
tttttcgtcg attaagacag tgattatgga cctagtataa ttattcgagt gactggaaat 360  
tgcttatctt cttctgatga agagaactca tcttcagaac ttggggagtc ggaa 414

<210> 2893

<211> 142

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-D6

<400> 2893

accacgcgtc cgggtggaaga acatgaaagc acagaagaat gtaagaaatg gttagagtaa 60  
aaaccataaa ggaagtaaaa gcgggaatct gagaggagga aagccacatt ggaactgaga 120  
aaaagggtcaa acaggagtgg ag 142

<210> 2894

<211> 200

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-D8

<400> 2894

agagagttgg ctggaaaagt gtggagagtc ggtttgatgg gatataatag tcgtcctgat 60  
gttgtcttga cattgttagc tgcgttcgaa agagctttga aaaaagttgg ctatctgcag 120  
tcgcagtgat ttgttgcct ttcatgtct caaagttgtg ttggagtaag tcgcgagcca 180  
taaaggtttg tttttataag 200

<210> 2895

<211> 305

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-E3  
 <400> 2895

cggacgcgtg ggcggagcct tggtgacact gctatggctg ttctgtgag tccaacgcta 60  
 tatccgcagt tggatgaaac tcctgcagac cgttcatttg tatttcaagg aggtgacagt 120  
 tattctgcaa aaggacagcc gtatccaatg gaaggactct attcttcata ctacggatca 180  
 ggcgatattc caaaagcatc cttaacggtt gcagattatt atccgtcttc caatccctat 240  
 ttgttggcat cggctccttc gatcgattat acgtagattg attgtaaatt aacacaagtt 300  
 gtgtg 305

<210> 2896  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-E4

<400> 2896

accacgcgtc agtgctaatc tttcgcgcgg ttatgacgaa atcaaattta cgcgcagtcg 60  
 ctatgctatt cttgacagta aactgtttc tcatccgctg gaaatattcg aaaaaagtt 120  
 ttcttgagca aaagaacatc aagtcgaaac cttcagtagc tattatcgtg cccattagaa 180  
 ataggccatt tgaagagaag ttcataagag tctatttctc acagtatctt agccagttcc 240  
 aagagtactc ttatgaaatc atctttgcag aacaaattct ggatgactat cactttaaca 300  
 aacgattgct ttccaacgca gctttccttt ctttgaaaaa tcgtttctat gactgctatt 360  
 gtttgcaaga cgctgatact gtgccactta ccaacgagtt gttataccgt tgtcct 416

<210> 2897  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-E5

<400> 2897

gttgtgttag cattttcagc aacaataatt ggacttgatg gaaggaaggc agataacata 60

tggaacgatg ccctatatta tcatggaaaa gtggtgaact tttgtgcata ttcggcttcg 120  
 tctgtttttg aaggtggcga ccatggcgca tgtaaataatg tgatggcttt ggcttctatc 180  
 agcttgattt tagttttctt tctttggttg gcctcctttg tcgacgcatt gtatccaatt 240  
 cttacaaagt tctggtttgt ggagcttggt atcaacatat tccttactat gtggtggttg 300  
 gttggtgcaa ttgtggtgac tgcaaagcga ccttctagtg ttgttatgga tgcgcttcac 360  
 ataacgaaag atatcaattc aatcgaaggc ctttcatgga tcaactttgc ttttacgcta 420  
 ttcctttgtg g 431

<210> 2898  
 <211> 311  
 <212> DNA  
 <213> *Cyanidium caldarium*

<223> Clone ID: LIB190-056-Q1-E1-E6

<400> 2898

agtcggaatc gattgcgttt ggaggagaga gagagagaga cgaccgagtc ttttttgca 60  
 cagtgagtat catggtgacg aaaacaacca aaaatatggt tcaagtattt ggaagaaaga 120  
 aaactgcggt tgcggtagcg acggttactg gttcgggaaa aggtctcate cgagtcaacg 180  
 gcgttccttt ggagttggta caaccggaaa ttttgcgcat caaagttttt gaaccatac 240  
 ttattcttgg tcaagacaag tttgcggact tggatattcc gttaaaggtc aaaagtgggtg 300  
 gacacaccaa c 311

<210> 2899  
 <211> 445  
 <212> DNA  
 <213> *Cyanidium caldarium*

<223> Clone ID: LIB190-056-Q1-E1-E7

<400> 2899

acggacgtgt ggggtaagaa atggttagag taaaaggact agaagaggta cggaattcac 60  
 gaggaaggag cgtgaaggaa ggaggaatcc caagtaatcg aggaagaaaa agcttcggtg 120  
 aaagcgtgaa cggattttgt acacactgcc cgtcaagttc tggaagtgtg ctaggaataa 180  
 gcaggagaag tagaagagag taggaaaagg aagtaaaagg agggaatgaa gggaagttat 240

ggcaaaaaca cgtgccagca gcagcggtaa aacgtgtgta gcaagcgtag agcagaagaa 300  
 ctgggtgtaa aggtcgagta gtagagtaag tgtaaaaggg aaaggaaagg agagaaagag 360  
 gaaagggatg aaatgcagag atctctagag aaaggcaaga aagaccagaa aggaagacac 420  
 agtaaagac agcacagaag aatgt 445

<210> 2900  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-E8  
 <400> 2900

agcctcctcc tctcctcct cctcctcaat cttctatatac aacgaccatt actggaaaag 60  
 ctattttag tagttttct gcgctattag aagaaggaga tcgctgattg aatgctattc 120  
 gaaagcatac agttcctagt ggtatgttta cagaggagat tgatcgatat actgggttcg 180  
 agcaaggagc tatcaattta acttgaggtt atgatgcctt tgttactgcg gtttggtcga 240  
 gagaagatgt tcacaagttg ttttctaaat attgtgaacc tccttctcca tctctaccta 300  
 gtatgccagg acctgggtgt ttatcttctc catagtaaga ggcacttggt cactttggat 360  
 atttttgtgg ttcataataa gacaagcttt attaaaatac cac 403

<210> 2901  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-056-Q1-E1-F2  
 <400> 2901

agccgtaatt ggtagcaaatac tggaaatatac aagaaagggtt gtttcattca cacagagtgt 60  
 agctctaata tggacttgaa cccagagatg agttttcggtt tttccgctg gttctcgact 120  
 cctgttggtg cgacaacttg agtagctttc tctccttttg tcaaagcagt cttcttggtc 180  
 ttcttgcgtc cagtcttttg ttcgcgatta gcctgcttga tttgtttttt aaaaagttac 240  
 agagtgatgt atccgcccct atttgttgtg ttcccttgaa caaagaaata cgtttttaaa 300  
 gcaagacaag gaagcctttg atgggcttga agaaatttta tatgcggtgc atcgccacga 360

aaacgcccc aatgaacgtc cttgcacaag agagatgg

398

<210> 2902  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-F5  
  
<400> 2902

gaggaacaat gcacctcata ctgctgggtt ccagtacaga cctatgaaac ttatcaatgt 60  
tctcaagaga agaagaagga gtacagctat ccttgtcaaa cttatgagca ggtttcaact 120  
acttaccagt gtggtcagta cgagtcccaa caagtttact accaatgcca aaagtataag 180  
gaggttactc agcaagaatg ccagtacgtc caagagtcgt attgtgtcga gtatgaagaa 240  
tgtcagcaag ttaccagga agtttctcct tcagaaattg tctactacgg tgaatcttct 300  
tctagcagta cttacgacta ctagaacact tgtgaaatgc ccaaagtcgc aaagtacagt 360  
cgtctttttt gaagaaactg ttactttttg tccc 394

<210> 2903  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-056-Q1-E1-F8  
  
<400> 2903

acgaagaatc agatgttgca aagaaaattc tacaataac aggtggaaag ggagcagcgg 60  
cagtagtgga tgccgtagga ggagagatcg gtacagcctg ttgttcagct cttgcaaagg 120  
gaggactatt tcaaggttat ggattacaga gcggaattcc cattcaagtc agtaacagcg 180  
accttatttt caaagatatt gtgattagag gtttctgggtt ggcattgtgg tttcctaaac 240  
aatcaccttc tgtcgttcaa gaagttttcg atatgtttag gaagaaagaa cttgttccac 300  
atattcagaa gatatttcct cttgaagact a 331

<210> 2904  
<211> 189  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-056-Q1-E1-G1

<400> 2904

aggacgcgtg agtggcaatt attgaaacaa gaggagcggg ctttgggaatc caaatgaaac 60  
aaaaccgtat acaaacgtat ttatactac ttcttttaggt tgccaatgcc atggattatg 120  
tcgtttgtta ataccgtct tttctttcta gtttggtcgg agacaaccag gaattatctc 180  
cagtcgacg 189

<210> 2905

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-G8

<400> 2905

attcccgggc ccgaacacgc gtccatgttg acacaagaaa atgcctaaga aagctgttgg 60  
tattgacttg ggaacaactt actcttgtgt aggagtatgg atgaacgaaa gagttgaaat 120  
aattcctaata gaccagggga acaggacgac tccttcctat gtggctttca ctgacgagga 180  
gcgcttaatt ggagacgcag ccaagaacca ggttgccctt aacctcaaaa atactgtatt 240  
tgacgcaaag cgccttattg gtcgaaagtt ttctgaccc tgggtgcaag cagatatgaa 300  
acattggccc ttcaaagtaa ttgccaagga tggagataaa ccccatatac aagtaaccta 360  
taaaggagag acaaagactt ttgccctga agagatttct gcaatgggtc tgcagaagat 420  
gaaggaaaca gcggaagcgt atcttggttc tgctgt 456

<210> 2906

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-056-Q1-E1-H12

<400> 2906

acgcgtcaga atttgaaacg cgtgtttggt tttttacttt gtacttgatt cttgtaaaac 60  
atgtctgacg atattgttgc cttggttatt gacaatggct cgggtatggg gaaagcagga 120  
gttgacgggg acgatgctcc tcgttccgtc ttcccttcca tcgtaggtcg accaagacac 180

caagctatta tgggttggtat gggacaaaag gaaagttatg tgggtgatga ggctcagtct 240  
cgaaggggta tactctcttt aaaataccca atagaacacg gtattgtcac taattgggat 300  
gatatggaaa agatatggca ccatactttc tacaatgaac ttcgaattgc acctgaagag 360  
catccagtcc tgttgaacga aacctcctct caatccaaag gcaaacaggg agaaaatgac 420  
tcagatcatg 430

<210> 2907  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-057-Q1-E1-A10  
<400> 2907

cgaccaagc gtcagggaga ttaaggctga gaaggagcag tagttcgctt ccggagcctg 60  
aaacaaacac tcatatatac atatacatat attttctata gatatagcta ttcttcaaatt 120  
ggtttcctaaa aagacgaaaa aatccactga gacagtctct tcaagattgg ctctcgttat 180  
gaaaagcgga aagaccacgt tgggcttgaa aagtacgttg aagagccttc gtcagggaaa 240  
aacaaaactc gtggtcttgg caaataactg tctcctctt gtgcgctcac agattgaata 300  
ttactgtcta ctgcgcaagt gcaacgtaca ccactttcaa gggaataaca tagaactagg 360  
aaccgcttgt tggaaatact tccgttgttg ctgttttagga attttggacc ctggtgactc 420  
tgatattctc aag 433

<210> 2908  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-057-Q1-E1-A12  
<400> 2908

cgaccaagc gtaagccac gcgtccgtct gcctcttctg ttgtagaagg aggggacat 60  
ggagcgtgta aatatgtcat ggcgttggcg tctataagtt tgattctagt ctttttcttg 120  
tggtttttta catttgtaga tgcgttgtat cctattctta ccaagttttg gtttattgaa 180

ttgggtatca acgtgtttca aacaatgtgg tgggtgggtg gagcaattgt tgtatctgca 240  
 aaaaggccta caagctctgt actanacgct ttaaacatta ctaaggatat taatgctatt 300  
 gaaggccat cttggatcaa ctttgccttt agcctattcc tttgtggaat tgcaatagca 360  
 gatggtttgt tgggtgggtc aagaagtgca tgctcgggga accataatag tggaaatagt 420  
 aataatgc 428

<210> 2909  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-A5  
 <400> 2909

ctaaatgcga ggattgtcat gaagcagtgt atatggccga gagaagtgc cgttggatgg 60  
 gagcgcgga gatcacatgc ggttgggttc gttgttcagc gtggagagtga gaacttagcc 120  
 tcgggaatta cacactgtta gatggagttc tcggttcagc gccgcacttt cagggagcag 180  
 ttcgttctgc tggaacgtag cgagcaccgg acaggagcgg gggagcgtat cgaggaagct 240  
 tcaacgaagg ggaactggac aggggtgttc gtcacaaaca agtgggggtg tatcatctca 300  
 aactgtaggt aatcccaacg ctaacgatgg tatgggagag tcatcgaatg ctgctgtttt 360  
 acaaactagt aacaacgaca atggaaaaga aacta 395

<210> 2910  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-A9  
 <400> 2910

gaccaagcg taagatacgc agcgattcca tgttgaaaga ggttacacgt atattgtccg 60  
 atctcaagtt tcaggtgctt caagatggaa aacctcaggt gataacttcg gatcaagtat 120  
 tcggaggaaa gaaagtacta ttgtttgggt tacctggtgc ctttactcca acctgctcta 180  
 ggcagcacct tccaggcttt ggacagaacg ttgatgaaat caaatcgaaa ggagtagata 240  
 cagtcgcttg tttagctgtc aatgaccctt ttgtattaca tcagtgggca gagtcacagg 300

gagtggcagg aaaaattccc atgttatcac atgggtggtgc gcaatctgtc aagaaacttg 360  
gactggatat cgataccggt gacc 384

<210> 2911  
<211> 417  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-057-Q1-E1-B10  
  
<400> 2911

agcggacgcy tgggatggag tatatggctg tgattgttgt cgttgtttgg agaccatggt 60  
tagcgccacc ctcagtagta tgtctagagc cagcttatgg ctcacaaggt tctttttgta 120  
cacagtcatt ctgcctttt ctatcgccat agatggagtg atgggaaaaa agggcgacaa 180  
tgtttggaat acaacccttt tatacaatgg gaaagtcttc gacttttgcy catataaagc 240  
cagtgcgatg aaggcgatag agtataactt tatcggaaac ccgcctactt gcatgtatgt 300  
catcgctta gcgtcgacga gtttcacgt ctattttatc ctgtgggtgc ttaccattgt 360  
ggacgtcttt taccggttcc tgaacaaata ctggccggga gagttgttta ccaatat 417

<210> 2912  
<211> 74  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-057-Q1-E1-C1  
  
<400> 2912

ttacaagagc atgtacgagt gtagggaata tttaaccgcc agattctcac caacaatttg 60  
ggtcgttctg tggg 74

<210> 2913  
<211> 353  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-057-Q1-E1-C10  
  
<400> 2913

gacccaagcy tcagcccacg cgtccgcca cgcgccgcc cagcggtccg gtggattccg 60

agcgcttgtc attacctacg ctagtggacg agaccatgga tgccgatgaa agctttcata 120  
tcgtgacgag cgaattttcc gaggatggta cacacacagc tatcgtcact ccacgtacac 180  
aaatatccag tcgtgatatc gatgcacgtg ttggtcgtcg aagaaatgaa acagtgagct 240  
ttgacgacac cgtacctagc catgccttgc aacaagaaga aacagagact gtcgagtatc 300  
aaggggatta tggaatggga tgcattgcgg acaatatgtt cggagccagt agg 353

<210> 2914  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-057-Q1-E1-C11  
<400> 2914

cgaccaagc gtcagccac gcgtccgata ggttgcagtt gcaattgcag gtccagctcg 60  
cttatcacct tctgcctggc tatctattga tggtttcgga gtatatggac cagctgatgt 120  
gttttaatat tagtgcttat ccagaaagta cgctccctgc ctacagtagc aacacttcac 180  
gggaggatgg gggttttgga aacttttaaac cttatacaag tcctattgca atgatacgct 240  
cagcctctat gatgcttcgt cattcttttg atcaacctgc agcagcggat ctgttacaac 300  
aagcactgca acgtaccatg gaagatattt cgaatagtga agtttctcac aatgggtcgt 360  
ttttggaatc acgggcta 378

<210> 2915  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-057-Q1-E1-C12  
<400> 2915

gaccaagcg taagtgcttt ctacgtgtat attttataag catagcaact atacttggaa 60  
ctgggtattct tggccttcca gttacacttt atagctgtgg cttctttcct tttcttattg 120  
tatttactct agtactattt gctcaagtat gcgtgggtgtt tgcgtttgtt gaactactac 180  
aacgaacaga cgcttccctt gtcaagttat ccaatgagtt gcgaccaatt agtgccatcg 240  
ttcctgaaca agtcgaatca accagtgaca gtgccgtgga ctcagaagtg acggaacgtg 300

cagagcattc ttcaacactg cacgacggta ttcctgtagt agcaggttcg tgaaaactta 360  
 tttgtctgtt tttgctgatg ttgttaaaga atgcccctgt tgcttccta tttactatga 420  
 gtgta 425

<210> 2916  
 <211> 444  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-057-Q1-E1-C6

<400> 2916  
 cggctctaagc attccggggc gacgcacgcg tccagtcaga cggaaagggtt gcaaaacttt 60  
 ggagtgcgtc cacgattgca gagcactttt ggcttgcgta gacttctgta gaattagact 120  
 cgacacttgt ttatgttgta ctttgagtan atgagagctg tgattgaacg tgtcagccaa 180  
 gcgtccgtaa ctggaggagg aaaggctcgt tccattcaag agggtaggaa ggtgagacag 240  
 ggttttagga gtaaagagta tggagtgccg ggtctctgca tgcgtttggg cagcgctgcg 300  
 cgaagacacg gtaaggagga tcggttggtt tttatttttg atattttcgg gcacgctccg 360  
 ttaggaggaa gatcttgaat acatgtaagt atttgggctc atgtttcgac ctcacataat 420  
 gtctcgtagg tgttcaaaag acac 444

<210> 2917  
 <211> 304  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-057-Q1-E1-D10

<400> 2917  
 gacccaagcg tcaggcgtaa gtctctcaag gccaatcctc cggaagaaat tccacggtca 60  
 aaacaagagt ccgctctagt tgactctgtg gaggatggaa agcacgtcgg cagccatgaa 120  
 gaggttttca atggcgctt tcccaagttg aggttatcgc aagccccag tagcgtggat 180  
 agtacgaaga aatcggagtc aggacaggtt tatctgccct atgaaagaga taattggacc 240  
 gagtcagagt cttccaacgt tggacacggt cctgaactct cacaccacct gggttggaga 300  
 cacc 304

<210> 2918  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-D12  
 <400> 2918

gacccaagcg taaggtaaag gggttgggtg aagatggcac aaccttcct tgacgagatc 60  
 ttcaagaagc ctccgaaaga ctgttcgcaa gattactgtg acccttatga attctatgaa 120  
 tatcaaagat atttggaaag agagtataaa gtcaagtccg aagagtttat atatataaag 180  
 gacaaagtca aggagtgtta ttatcgtgaa ggggtcgtc actataagaa ttgccgtgaa 240  
 cttgttgatc agtattggaa aaagctccgc gaagtacgcc gtttctatca tgatcaccga 300  
 aggattatac ctggaaagga atatattcct gttccgaagc caaggaagtc agaagaactg 360  
 ctggatagtg cggatgtaga actgaaaaac gtagcagtga catcagcttg gatgaacctc 420  
 agtcctaac 429

<210> 2919  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-E10  
 <400> 2919

gacccaagcg taagcccacg cgtccgcca cgcgtccgaa tttgcaaata tttgctatct 60  
 ttagcagtag tgttatttgt atctgttcat attgctcgag cacaatgctc ggaagagact 120  
 atcaaacaaa tggaggcaat atttatacaa aactttacac aaaatgaagc aatggctcct 180  
 atgtgcttac attctgcctt tcatgactgc tggaatgggt gtaacggagc attgttttta 240  
 ccagaagaaa tagacagacc tgagaacgct gggttacctc cgctgaaacc actgctgatg 300  
 ccatttactt cacagtttcc ttgtatcagt attgcagact tgatcaactc ttgtgcgggt 360  
 actgctctga agtttttggg tgggccaat tgtccaagtg tactagggaa gactcgacag 420  
 aggtggtt 427

<210> 2920  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-057-Q1-E1-E11

<400> 2920

```
ccggctcgac ccaagcgtaa gacaacgtgc ccttttggag aggccattgt tgagttggga 60
gacacaagtt tggcagtgga gacttgtgaa gagttattta ctgtcgatcc tccgcacata 120
aaatatgtct taaatgggggt tgaaataatt gcaaacggct caggatctca tcaccatctt 180
cgaaaacttg accaacgctt agatttgata cgtggagcta cttgtaaggg aggtggagtt 240
tatttatatg ccaatcaact tggatgtgat ggaggaaggt tatattttga tggatgtgct 300
tgtatttgtg tcaatggtga aatagttgct caaggatctc agttttctgt ggagactgaa 360
gtggaagtga ttgttggcac tgtagatttg gacaaagtga ctagtcatcg tgttggagtt 420
gcctcacgag gt 434
```

<210> 2921  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-057-Q1-E1-E12

<400> 2921

```
gacccaagcg taagcccacg cgtccggttg gttggtttcg tcgcttcggt ccttcttttg 60
tgattctcgt gtattgcacg agaaaaagtc cttaatgagtg aaagagcttt gaaaagcagt 120
gcacgtcttg tgcccatagc tccaaagcct gttgtacctt caaaagggtc tgaaactttt 180
tcgttgcatg tagttggtgc cacgtgggat ggtggttgca cgtactatat aaggggagga 240
gggtcatata ttactaatgg gagaattaca gtaccttcaa gggcgtctaa tcccatgacc 300
aaggacgagt tcttcttact gggacttac tcgagagaca agcttttgcc gctgtttgat 360
acaactctac aaagttccga aacacaatta tgtgggttac tttgggtgtg attttcacag 420
ttgtttt 427
```

<210> 2922  
 <211> 430



<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-057-Q1-E1-E8  
  
 <400> 2922  
  
 cggctctagca ttccgggccc angcacgcgt ccacgagctc agcttgaata acaaagaact 60  
 tgcgtgggggt tggacgttat ttatgaactt ggactcgatt gacacagga ttaaggctcc 120  
 ttttgacccg tttgcagacg cctcacgtgg agaggacgca ggagtagcga ggggtgtagt 180  
 ggatattcgc ttgcaacaaa ggaacggccg caagtgcctc ggggagcagt caagggcgtg 240  
 agacaaaagg gcggttgat aaatgtgcga aggccgtcaa aaggagttt tgggtgaacg 300  
 gtggtgtcgt agacgacgga ggggggggaa gagtcacga actgcaagga cgagagaggg 360  
 ataaagtcaa aaagtttcta gttcaggaga aattagctgg aaaggagctg ataaaggtgc 420  
 acggtatatg 430

<210> 2923  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-057-Q1-E1-E9  
  
 <400> 2923  
  
 gaccaagcg taagcccacg cgtccgagaa agaggaaagg ttacgagag aaggaagtag 60  
 aaagaagaga gtgtaaggcg gcgtcataat agaaatccga aaggagtaga agaaaagaga 120  
 gagaagaaag aaaagaagag aaaagccgta ctgaagaccg acacaggtac tcgaggagaa 180  
 aggagaccca aattaagggtg agagaatgga cgataaggaa ctaggcaaaa ggatattgta 240  
 tctgcggtag aacatatgaa agaagcagca ccgactgttt agcaaaaaca cagcactctg 300  
 cagaaaagag aaaatgtaaa gtatagagtg tgcggcctgc caaatagtag agaagaatc 360  
 gatgaaagtg aaagcgagta aaagatgacg tatagagaat ggcggtccta acagtaagga 420  
 tcca 424

<210> 2924  
 <211> 424  
 <212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-F10  
 <400> 2924

gacccaagcg tcagcccacg cgtccgacaa tggcttattt gttgtcatag tatagaaaat 60  
 acaacaaaat gatgggactt gttcgttggt agtggaaatt ttccgtttca tgactagatt 120  
 tggctttgtg ataggaccga acttctgttt tcaacggaaa cgtgcagctg acttgctgaa 180  
 agaaaagagg cggctgtgtt ctttcccgca taggacagct tgtcatggag gtgttattat 240  
 gagtcgatcc aacgaaaggg taaccaagac tagtgtggaa cactttttgt caatggccgc 300  
 gaaaaagctt cgtgaagtct ttggatattc ccactttcct tctggccaag aagacgtttt 360  
 gcaaaaacta cttttgcctc ggtagttgct ttgggacttg ttaccaactg gtgggtggaaa 420  
 aagt 424

<210> 2925  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-F11  
 <400> 2925

gacccaagcg tcagcccacg cgtccgggct tttgtattcg aatctcgaaa cggactagaa 60  
 gaaacataag aactgaaaa taaagcaaag ggttttagg tacaaaggct ttcgtatcga 120  
 cgtgactaca gacaatttcg tacaagaggc gcgatggtag atcaagtatc ttcaccaca 180  
 ccagactcgg agcacgtgtg gtataaaagt tatcaagggtg aacaggactt gtgttacatt 240  
 cgagcactta ttgacaacga cttgtctgaa cccactcca tttttactta tacacacttc 300  
 ctcaatcact ggtcacactc acgtctccta cgcctctttc caagtgaatg tactggg 357

<210> 2926  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-F6  
 <400> 2926

gcaaagaact cgattacttc ggaagttgta gattcctcgc ctaggcggat cgttgcaaga 60  
gcaagcgtca actcctcggg agaaagaaag tttcgtcatg gaaagttcct acttgaaaaa 120  
atagaatcgg gctcttttca ctggaacagg ggggaagccgg acttggtgcg gcctagggcg 180  
gtgaagagga gaggccggtg aagaacagcg gcgggagggga cgtttccggg cgcaagactt 240  
tattcctggg gaaggaaaaa gtgcaacgca gattgccccg gagggctact tgggttgat 300  
caaccacaa gaggcacttc cgagaggcgt gtgaggtgac caatacaagt gtgaagattt 360  
taatggc 367

<210> 2927  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-057-Q1-E1-F9  
<400> 2927

agcccacgcg tccggccttt aaaagcgtg cacgctggtt gttgagatac aggtttgtgg 60  
attgttgaaa aagaaaagtt gtttgaggac caaacagagt gacaagaaga gatggcaagg 120  
agaatattgg gtgcttatat gggagatgcc acagtggcaa ctctgttcag tatcaaaatg 180  
ttgttctatc ttactatcat gggtttctcc ataactatct tggctctcat gggaaagaac 240  
tcggatggta tttggataca tagtgtgcca cctgcagatc aatattgtgc atacaagtct 300  
tcattggagg tgaaccacca tggaattgct tcctattgca agtatatcct tgccgtacct 360  
gctattgggt tggttatctc gtctttccag ttttgctacc gtctgttggg t 411

<210> 2928  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-057-Q1-E1-G11  
<400> 2928

gacccaagcg tcagcccacg cgtccggcga ggagagacga gattgttggt gttgttggtg 60  
tttggttggt tagttggtgg gaaagccaac cacagtgcaa gtattgttgc agatatatac 120  
actagtagaa taattgttga ggtgcaccag tgtgtttgtg gggtaaaaa tattacgaga 180

aacgaacaag atgtggtggt atgtagaagc ttcattttcca acccataatc atcacaatgc 240  
 taataataat aatatacatt gtattcataa gagaggagtt gcttgcaagt atgtaaacia 300  
 gttggttgcc ataagtttta ctaggtcgaa tcgttgcttc aactggagca acgataccaa 360  
 agcaagaata accactacta ctactactgc agtaccctgc ggaaaagaga gcagccgacc 420  
 ttgttcttt 429

<210> 2929  
 <211> 328  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-G5  
 <400> 2929

tggtgaaaga acttagatcg agagcagact ttgaccaggc tagtcaagca gacaagttcg 60  
 tgccgctgga cttttatggc acttggtgcg ggccttgcta gaaggagttc tccctagctg 120  
 gaagaactgt ctgctgaccc tactttaaat ggggagagcg ggtagctggt tctacgcagg 180  
 tatgaggtgg agagattggc agatggtgcg caagaagttg gggattaccg cgatgccagg 240  
 ttttatttgt tagagaagag gaaagaaagt cgaagaactc gtcggtgcgt cgaggaccgg 300  
 ttaaaacata tgattgagaa gaacgctt 328

<210> 2930  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-057-Q1-E1-G6  
 <400> 2930

acgatggcca gcgtgatcct gtcacaattg tacctgggac tcgtttgtat gagtgggttc 60  
 gacaggagga aatcttgggg aagtctgagc atcaccaagg aatcagagac ctcggaagac 120  
 tgggagctcc tatggcattt gtcctgatg gagggattga aggttactat tggggcgcg 180  
 cttaggatcc caggggaagg aattttcttg taggtgggag gtgtcatcca gaggagtgc 240  
 gtgcgcgcac atgagatcgt tcttgctcgg agaggcgacg gtcagtatga ttagccagga 300  
 tgtgccccgg tatatgagac atttagtgct gcagtgcagg cttttgcttc aaaagaagcg 360

ggtgattcgg gtccttctac aaaga

385

<210> 2931  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-057-Q1-E1-G9  
  
<400> 2931

gacccaagcg tcagatttct gccaccatag aaatttcgaa accgtcgttt cattttgtgg 60  
cttgcttttc ttttctttca agaattgagca agactttgga ctacttgac gattttcggg 120  
ttgaagcagg tggtacacct ttctcctcct tttggattcc ctgtgttacc tgtgttcttt 180  
attttacgct cactagagtt ttcaagttgt tggtttcgaa tcgaaaaccc cttcgttccc 240  
cttcattact gtttttttac aatggctggt taagtttctt ctcttttatt ctctttattg 300  
ctcttggtgc agttattttt gaaaagtcca aactctatac cctcatgag ttgggttgtg 360  
gctccgctac ccatcatgat ggccgcctcc agtttagctt attggctaaa ttaccttttc 420  
aaata 425

<210> 2932  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-057-Q1-E1-H10  
  
<400> 2932

gacccaagcg tcagcgacga tttggaagca atggagaatt ctcaagggtga taaaccagac 60  
tggaacaaa aactggaaga aacttataaa catttggaag gtttattgaa gaaaaccgaa 120  
gagatggaac agaaatggtc cagatatagc ttgtcgcagt tttcaacgga agatctcgta 180  
agagaactcg aaaaaagaat gggatgggca caaggagata ttccgatgtc tgatgagaaa 240  
aagagattag tattcatagg tcctcctgga agtggaaaag gaactcaagc accaaaagta 300  
actcagaaat attgtttatg tcatttgga acaggagata tggtgagagc tgctgtatct 360  
gcacgaacag gatttaggga aagaagcaaa gaaagttatg gacgccggtg gtctcgatc 420  
ggatgaaatt gtggtttct 439

<210> 2933  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-057-Q1-E1-H11  
  
 <400> 2933  
  
 agagcgccgt cgcccgacc aatcccactt gtctattgaa gcacactcaa ggagcgaata 60  
 aagagactac tgaaaaaaaa atcatgcaaa aaaatcaacc cggtcacgca acatagctgt 120  
 tttgatgtag ttgcagttgc ccattgttat agaacgagca gagttggagt ttgagatgaa 180  
 gtagtcgttg ctcaagcgaa acatagttga ctggcatcga gatgacgcac tagtgatagt 240  
 ttcttccaat cgcaggtgga atagggtttc cttgtagagg ctgacttgtg gactgcgaga 300  
 ttagtggtga taaagctcat aggaagaaaa ttccacgtgc ttcaagtttt cgtcttgaac 360  
 tggtgaaaaa taatggttta cttggtgaag ttgctatagc gtagaaaggt agccaacgag 420

<210> 2934  
 <211> 322  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-057-Q1-E1-H12  
  
 <400> 2934  
  
 gacccgagcg taagcccacg cgtccgcca cgcggtccgtg ctttttctcg tcatgtcgca 60  
 gtcccgtat gatcgtgcca ttacggtctt ttcccagat ggacacttat ttcaagtaga 120  
 agatgccttg gaagcagtag gaaaaggaac aactgccgtt ggagttcgag ggaagaacgt 180  
 catcgtcctg gcaatggaga agaagagcat tgcaaaactc caagaagcac gaactgtggc 240  
 gtaaaatgtg tctattacat aagcatatat gtccgtgctt tgccagggtg acagcggatg 300  
 ctcgagttct ggtgaaatcg tg 322

<210> 2935  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-057-Q1-E1-H2

<400> 2935

ttcccgtagg tgcaccaggc ctgcggcttg ggaaaacgac gtcgtcggaa caactcgtat 60  
tgcagagtgg aattggatat cgacggctat tatggggaac aaaataggaa ggcgtgcacg 120  
tactttgacg gacgtgtcag caccagacgt cagtgcagt tgggcaaatt ttttgggacg 180  
caccggaaac gtggaactgc cagcatgggt ggattatgtg aggcgggagt gcgacgaacg 240  
aactagctcc agatgggtcca gactggcgcg gcctgagaat ggcagctcgc gcgcggcaaa 300  
tctgtagtcg gtccaggtag aggtgggggt gcattccgac gggatatacg tgctcgggag 360  
agaaggggat cgaagcctan tcacttcccg ttg 393

<210> 2936

<211> 266

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-057-Q1-E1-H8

<400> 2936

acggctctagc cttcccgggc cgagacgcgc gtccgcgggt gtttgcttgg gtatagcgggt 60  
ggtagggcgtc gtcgtcgtcg ctgctgtaga cgcgcgttcc aagccttgag gacaaaagtc 120  
catccgcaat cgacgcaagt cttcattgggt gacaacgtga cgaactaccg ataccatttt 180  
taggcgaaga aatagaattg cgctgttgct acctacttct tgcaggctct aggtgcaacg 240  
ctccgagagc tggatgagct cttcta 266

<210> 2937

<211> 329

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-A1

<400> 2937

agcttacctc tccaagaacg tgttgacagg cagtccatag aacgtgctgt aaaatgagag 60  
aacgtacgag aaagccaagt gaggaaacga aggcaagtac atggcggacc gagaaaggac 120  
agggcgtaag acgtgataca gactaggaag aacagataac agagctataa aggacgtcaa 180  
agaagagtac cagcactaga agaggtacgg aattcacgaa gaaagaacgt gaaagaatga 240

ggaatccac gtgaggaaaa caacgcaact agagggcggc ccgagaaagt agaagagcat 300  
gaaaagaaga gagaatgctg ggtggaata 329

<210> 2938  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-A10  
  
<400> 2938

agcaagagcg ttcctcagta cgggaagaag agactttggt attaggtacc agaagtcctc 60  
gaagtaattc agatattgag aatggttaga gtatctatat aaagtatata ttgctcaag 120  
tatgaacgat taggaggtgt gtctttgagt accaccagcc ttgacaagaa ggaagaaacc 180  
aaaaaaggcg ggaaaaagga agaacaagga aagaagaaga aagatgacga cctaaaaact 240  
catatggcga acgaacgaac tttcttcaag tggttattta caggttttca tattggagct 300  
atgggtactt ttattctggc attcttttca gagtctcgag atcctttcaa gttgttattg 360  
gttatctttt gttggttgat tgccttgagc tttgtgtttt atggattata caa 413

<210> 2939  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-A12  
  
<400> 2939

agcccacgcg tccgcccacg cgtccgatcg tttgtggtgt ttgtgggggg agagagagag 60  
atggataccg gaaaccctta tacttctgta ggcgtaagga gtacaaccg agcaaaaacc 120  
agcgaatcaa agaaaaaatg gaaaaagatt ctgccttata tcggaggtgt agttattcta 180  
ggattggtgg ttggtttggc caaagcaaag cagcagcaag atacgggtga caagaagaag 240  
acggcagtag caaaagaata aacgaagcga gacattgaaa cgctgtcgaa tggttatgaa 300  
agggtgatat cgtgttgttg gttcttattg ggtagtttgt ttttctgtat ggattaaaag 360  
aaagatagac ttgtgtctgt gattctattt gccaaaagaa aaatgctttt 410



<210> 2940  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-058-Q1-E1-A2  
  
 <400> 2940  
  
 cccacgcgtc cgcgccagcga ttccatgttg aaagagggtg cacgtatatt gtccgatctc 60  
 aagtttcagg tgcttcaaga tggaaaaccc cagggtgataa cttcggatca agtattcgga 120  
 ggaaagaaag tagtattggt tgggttacct ggtgccttta ctccaacctg ctctaggcag 180  
 caccttccag gctttggaca gaagggtgat gaaatcaaat cgaaaggagt agatacagtc 240  
 gcttgtttag ctgtcaatga cccttttgta ttacatcagt gggcagagtc acagggagtg 300  
 gcaggaaaaa ttctcatggt agcagatggt ggtgcgcaat ctgtcaagaa acttggactg 360  
 gatat 365

<210> 2941  
 <211> 330  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-058-Q1-E1-A3  
  
 <400> 2941  
  
 ggaagaaaga ggcacatacg ggaaagcagt aaaagaagaa agagaaagga aaaaactgag 60  
 tatcaggaag aaaagaggga gtagatgagg aaagaaagat caaggaagta agagtaacag 120  
 aaggagtaat gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtaa agcgcgtagc 180  
 ttttgcataa tgtcccagcg agtgaaagag gaagcatcaa gacagaaaga gaagtagcca 240  
 ggtaagaccc gaagctagtt gatcctatgc tgtccaaacg aagtaacgct gaaccagtat 300  
 ctgtgggaaa aagattcgga agagatggca 330

<210> 2942  
 <211> 354  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-058-Q1-E1-A8  
  
 <400> 2942

aggggcgtcg tcgtcttttg gaacattgtt attggttggg gaaagtttat agaaaatgac 60  
 aaaaggaact tcgagttttg gtaagagaaa taacaaaact cacgttttat gtatacgtg 120  
 tgggcgaagg gcgtaccatc tacagaagaa gcgttgtgct tcttgtgggt acccatctgc 180  
 taaaaagaga aaattcaact ggtcggaaaa gtcgaaaaga aggcgaaacga caggcactgg 240  
 tcgaatgcgg tatttgagac acctaccgag acgattcaaa aatggtttta gagaagggtg 300  
 caaggcttct tctaaacgtc ctgctccagc accttcagca gtataataat tgac 354

<210> 2943  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-058-Q1-E1-B1

<400> 2943  
 aggagaatgc tgggtggagt agcgaaacaa gagaaggga gtaaaaggta agaaagagga 60  
 aaggtttacg agagaaggaa gtagaaagaa gagagtgtaa ggcggcgtca taatagaaat 120  
 ccgaaaggag tagaagaaaa gagagagaag aaagaaaaga agagaaaagc cgtactgaag 180  
 accgacacag gtactcgagg agaaaggaga cccaaattaa ggtgagagaa tggacgataa 240  
 ggaactaggc aaaaggatat ggtatctgag gtagaacata tgaaagaagc agcaccgact 300  
 gtttagcana aacacagcac tctgcagaaa agagaaaatg taaagtatag agtgtgcggc 360  
 ctgccaaata gtagagaaga aat 383

<210> 2944  
 <211> 337  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-B10

<400> 2944  
 cggacgcgtg gggttttggg tttcgacgat tggcagtagc agcagcaaca tgagccgtcc 60  
 agaatacttg ggcctcctg aaatatatta caacgatcag gaagctaaaa aatatttaac 120  
 aagcacacga atgaacgaaa tccaaagaag cctcactgaa agagcgttgg aactgctgtg 180

tcttcctgct gaccaaaagt gcttattgct cgacttgggc tgtggctcag gtctaagtgg 240  
 tgatgttatt acagaaaatg ggcacgaatg ggtaggtttt gatatatctc aagctatgtt 300  
 ggatgcagct tgcaccagag acgttgaacg tgattttg 337

<210> 2945  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-B6  
 <400> 2945

agggattgaa gaggaatgac gtcaagtcct cttccggaag aagatatcgt tgctgttgct 60  
 ttgagactag tacaggaagg agacttgaat actttgacca ttcgtaaagt aaaggaactt 120  
 gttaaacaac aaattagtgt tgaagactcc tatgacgacc aactcaccga gctcgtgaaa 180  
 gttgctatcg atagacacat taccagtttg caacaacaaa gcatagaaga tgactcaacc 240  
 aagaacacaa agaaagatac acaacaacga aacaaaccac acaacacgaa agaaatagac 300  
 actagtctaa ctgaccaaga agtgtatcat caatttgaca aagtacgtcg tcaat 355

<210> 2946  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-B9  
 <400> 2946

cgcgctccgcc cgcgctccg cccacgcgtt cggaataaaa aaaaaaggag acaaagctta 60  
 agtcgcatta aacagccctt tgaacaatt tttgtcgtca caattagggg gggttctcct 120  
 cgggttttaa ctctctaata tttttgtttt gaattaaaac acctccaaaa ttttccccaa 180  
 atttaattta acgggcgtcc ttttaaaagc tcttgaatgg gaaatacctt gaggtgaaca 240  
 accttaacgc cttttg 255

<210> 2947  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-C11

<400> 2947

agaagaactc atcgagagaa tatggtcgta tgtagaagag cacaaggaaa cgcataatgg 60  
agggcgcttt ttggtacaag agctgtgtag tgttttctcg ggagatgatg tattatgccca 120  
tcgagcattg tatgttttgg ttcaacagga gaaagcagtt gtatatgaaa tagaaaaaga 180  
tgtttttgga gttaaatttg gtcctgatct ttctatgaaa gcgtttgata agaataatttt 240  
ttcgatgatg catcaaattt cacgactgga aaagcacatt gataatttga atcaaaagtt 300  
gtctgaaatg gaagaaagac taaaagtttg tgcagaaaag ttgagaaaat acaagtcttc 360  
acagaatgag ctctatatga ttgagcg 387

<210> 2948

<211> 347

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-C12

<400> 2948

agccccacgcg tccgctcatg ggagaaagct ctagtgagtt gaaggtggca gaaacttggg 60  
acagaacctt ggaacttggg attaagagag ttgcatatgg agtacttgta ggctcagtaa 120  
ctgctttgat cttattccgt tctcccttga cgagagttgc tgtttcgagt tttggagggtg 180  
gtgtagggtt tggaatgact tatagtgcg caaacggga ttttgaaaaa ctcaaactg 240  
cagtctcttc tcagggattg accgaggact tgtctatgaa tagttgatga ggtgggtggcg 300  
gcggtggtcg tcgtgaataa aagaatactc gttgttctcc tttgaaa 347

<210> 2949

<211> 358

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-C6

<400> 2949

agcaatgacg ctcattaaaa gtgtggatgc tcgagagatt ctagactcga gaggaatcc 60  
gacagttgaa gttcaagtca ctactgaact aggtgttact cgtgcagctg ttccttctgg 120

tgcttcaaca ggagttcacg aagctcacga gttgagagat aacgacaagt cgagggtttct 180  
 aggaaagggga gttacaaagg cagtacaaaa tgtgaagacc gaacttgcaa aagctgtgat 240  
 tggatggat tgtcgggacc aggcagcgat tgatcgcaag atgatctctt tggatggaac 300  
 tccaaataaa agtagactgg gggctaatagc tataacttgga gtttccatgg ctgtttgt 358

<210> 2950  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-C8  
 <400> 2950

agcccacgcg tccgtcactg cagacgctgg tgccgcgac gctactccta ttcaagcagg 60  
 ctccgtaaag aagaattctt ttgtagtggt gaaagggttt cctgcaaaag tggtagacat 120  
 atccacctca aagacagggga agcatggcca cgcaaaagcc aacatagtag gtattgatat 180  
 cttcactggc aagaaatacg aagaaatgtg tcccacctcc cacaacattc tgcagccggt 240  
 ggttaaccgc aaagactatc agttggtaga tattgaggac gatgggtttg tagttcttat 300  
 ggatgaaaac aacgagacga gatcagacct gaaacttgat ttggagaatg atgaagtaca 360  
 caagaaga 368

<210> 2951  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-D1  
 <400> 2951

cccacgcgtc cgcccacgcg tccggtccct gaaaagatat agagacatat ttatgtatgt 60  
 aaactctccc tccttgcct cgtcgactgg aacgagcctt tccaacgctc cttgtgctaa 120  
 tactttgcat caaggacaag agagtgactt gcaaagcatc gtcgcaagca aacgctatga 180  
 aagatatgtg agcaactcag aatgcccaca aaactttttt ccttgttatc ttcgaaacag 240  
 atgacctatt tttttgattt ccaactcgtc gttgaaaagt gaacggggct taaggctttc 300  
 tgttcgccga caagaatatt tgaagatacg aatttgcgg ttaatgttg tcaatattta 360

ttgcttcagc aacatcat

378

<210> 2952  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-D2  
  
<400> 2952

agccacgcg tccgccacg cgtccggttg caagaggtgg ttttcgaagc atgatcgttg 60  
tatgcaccga agaagacgaa gaaaccaaag tgctcaagga caaggtggaa ctgattcaag 120  
ttcctgaaac agtggattgt cttcaaaatt tactcaatat tattccattc caacttttaa 180  
gttatcactt ggcagtgcga agaggtcaca atgtggacca acctcgaaat ttagccaaat 240  
cggttaccgt cgaataaatg gcgaattggt ccatgtggag gaggtttggt tttttgtggc 300  
ttgggtcaac ccttgaacga aaaatatctg gttcatttat taaaagtatt ggtaacaatc 360

<210> 2953  
<211> 366  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-058-Q1-E1-D3  
  
<400> 2953

aggtaaagcg attttttggg aaaagatgat ttcaagtcgc gatgatcgtg atcaagatgt 60  
gtactggaaa tatttggagt ttgcgaccg ccacaaagtt gaatatgacc caaccgtttg 120  
tatgtctttg tacgtacaaa ctggttctct acagttttca aggaaatcgg aagggtcaaca 180  
agttattcct ctgttggaaat tagcgaaaga aggacacctt tcatgggtgg aggaactttc 240  
atacaattgc cgtcgtttat cttctctcgt ttcaaccttg ttggtcaagt tgtgtgagggc 300  
actgcctcag ttgaagatgc tgaatctgtc tggaacgtnt cttggtgacg aaaattttgt 360  
tgcact 366

<210> 2954  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-D6

<400> 2954

agcttctacc agaacagcag tatgtgaaaa acaaagggaa accaagagga agagtttgca 60  
aggaatcaac ggaagagaaa catccgacga gacacaagtt gaatcatgca aaaccacgag 120  
ataaggagat ttggaagaa gaggaatct tcaatttact agaagctttt agaaagtatt 180  
ttccagaacc accgagcaac ttgagagctc aggagataat tgaagtaggt atttgcattc 240  
cttggttttt gaataattca caggaaaacg agtaggtctg gtaggttctt tacggagaaa 300  
gaacagtggg agctgtggga aaacgttttg aagccttgga gtcgaaaatg gtactca 357

<210> 2955

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-D7

<400> 2955

agcccacgcg tccgcgacg cgtggggccg ccactacggc tactagccaa tattctagtt 60  
tattaacctt tctaagaatt ggtgcctttg tgtttggtgt agctgcaggt tttggaagt 120  
cttcagcgga ccacgtaaa agagaaaaaa ttttaatttc taaaattcac gagcgcaatg 180  
ccaaaattga ggcgttgga agtgaactaa agcaactgaa aggggaaatt ccagcttcta 240  
caggtgatcc agttcaagat tggttgaatc aattggaata agatgtatat gttacaagt 300  
ccttgtggaa gagagagata gtcatttgaa taaaattagt tcttttccca acaaaaataa 360  
atgggacact cctaaaaaaaa aagggccgg 389

<210> 2956

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-D8

<400> 2956

cgaccacga cgtaagatcc aatatgagta aacgcaacaa ctactttgag ttgcttaccg 60  
ctcgtcaact actgcccagg ggtggattcc ataccgtta cagtcaaac aacggacctt 120

cgcggaaccc tgacaaatac gacaaaatcc tatgtttcca tcgaaccata cggaagcttc 180  
 tttaccactt cccgaattct gcgtaaactt aaatttgaga gactaagact ctgctttctt 240  
 cacactcaag acaaccaggt tgcgaaacca gggtaacctt gacgagcgac tcgttagtct 300  
 ctcaccaccc ctctgtcta cgtgcttgaa acgtgtgcct ctgccgccct tcgt 354

<210> 2957  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-D9  
 <400> 2957

cccacgcgtc cgcccacgcg tccgacaagt tattcaacaa aaatatggga cttgtgggct 60  
 tcttccaaag aacactattg tcaggcaaac acaaggatat atatccattg gttggttgcg 120  
 tctctctttc tcttattatg gcaacattct tatccgttga ctaactgctc cacaatccaa 180  
 ctgtattatg gaaaaagtct gaacgcgagg cctttgctcg taacgaattg gagaataaag 240  
 aacgatggtc tattcggttc cttaagcaat ttcgagacca ccctattacg gtgttcaa 300  
 cactggaatt ccatacgag agcaaggaat aaggatcatc tgtaaataaa tgtccatctc 360  
 tgttgtgttt tcataacgat gcaatgtctc tcacttc 397

<210> 2958  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-E1  
 <400> 2958

tcacgttcct agttgcaata atcggtcttg taatatcgtc tgccactcct ctaagtga 60  
 gatggcaaag ttctacctcc tgccaagaga catgtaagac agtctgtatt caaacgcaga 120  
 tatgttcaac tccaacacct acaccaactc caagtgtttc tgcgcaacaa ggaaacgtat 180  
 accgctggag tgagacgtat gcaactccta ctccaacacc aactcttggt tgtacttatg 240  
 ttccgcagtg cactcaagtt tgcagcagca aatgcccaag tcagacaact tctgccgtag 300  
 aaagcaacag ttatacctcc tcttctactc aatcgtctac cacatcaaca tactattatg 360



gtgctgg

367

<210> 2959  
<211> 276  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-E10  
  
<400> 2959

acggaatcgt attcttatga atatggatgc cgaagtacaa aatcagtggg aactgattgg 60  
ttccaatgta catgagcacg actttttctt ttgacaagag ggacgatgct atgccatgca 120  
gacatatgaa tatatataga tatacaccta tgcatatgta catatatgca tatatatatg 180  
tatgtatcca gatttataga gataatacat gggatccata gagatagata gtttgtacag 240  
ataaaggatc gatagaaatt tggcgcaaaa cccagc 276

<210> 2960  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-E11  
  
<400> 2960

gacccacgag tcagcccacg cgtccgcca cgcgtccggg agagtctttt atggtagcaa 60  
ctatttggtc tetgtttcgt tcagctggac ttggcgcat cgtgtttgag gcctttctac 120  
ttacttcctt ggtataccct taagtgatc agataggaag ccttggttgg atgagttgat 180  
ccgagttatc caacaacggg cagtcgattc gcaaagagaa gcccgacaca gttactgcat 240  
tttttggtc tgtagtgttc taaagttggc ttatccacca tatttgaaaa acgctttacg 300  
ccaatcagta accaaatgta ctttcagacc ttttgactgg g 341

<210> 2961  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-E12  
  
<400> 2961

cccacgcgtc cgcccacgcg tccggaaatt tcgaaaccgt cgtttcattt tgtggccttg 60  
 ttttcttttc tttcaagaat gagcaagact ttggactcac ttgacgattt tcggtttgaa 120  
 gcaggtgtta cacctttctc ctccctttgg, attccctgtg ttacctgtgt tctttatttt 180  
 acgtcacta gagttttcaa gttgttggtt tcgaatcgaa aaccccttcg tcccccttca 240  
 ttattgtttt ttacaatgg ctgtttaagt ttcttctctt ttattctctt tattgtcttt 300  
 ggtgcagtta tttttgaaaa gtccaaactc tatacccctc atgagttggt ttgtggctcc 360  
 gctaccatc aggatgggcg gcctcagttt a 391

<210> 2962  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-E2  
 <400> 2962

gaatggaagc ccacagaata catttggtcc aggttgcatc caactagccg aagagaaaca 60  
 agtggtttatt gtgggcatg agtttaaatc gggacaaaca aatatgaagt ctgtgctagt 120  
 agagtactta gtgggtagt gaatgaaagt ggagtcgac gtgacttata gccacttatg 180  
 gaacagcgat atgtttcagt tgactgacgg agaaatgtgg aaaccagagt ctgccgcgat 240  
 aagtagagtt attgaagata gtgtcagttc caatgggact ttatacacgg aagatgaaat 300  
 gccggatcat gtagtagtag caagatatgt gccttcgtac ggatattcga acagtgatgt 360  
 cgccgagtac ctgactagaa ctt 383

<210> 2963  
 <211> 346  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-E3  
 <400> 2963

aggtatttgt tcctcttgca aatgctgcag gtcttggag ccgcatgtat gagttgggtg 60  
 acctgagttt gagaatattg ttccctcaat cctacttaaa gttcgaaaag tggcatttat 120  
 ttattcgaga ccaagcacia gatgtacttt cttccgcgca acgtgaactt cttctttgtc 180

ttatgagggg cccattttta gtccgtcttg ctgaacaatt tacaattact ggtcgcacga 240  
 aggacatggt ttctactttt attaaaatgc tcaaacaaaa caagacaaag gagcagatcc 300  
 ttgactttat tgcaatgaga gttattattc gattgcgacc aggagt 346

<210> 2964  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-E4  
 <400> 2964

agagaagaag agcgtgcgtg gaggatggat tccgttattg cactagttgg gaaagacttt 60  
 gttttatcag cagcagatac tgccaacgcg cgttcgggtca tagtaatgaa agacgatgtg 120  
 gacaagatat tggagctgga tagtcataag accttagcta tgggtgggga gccaggtgac 180  
 tttgtgcagt tcacggagta tatacaaaag aatcttcacc ttacgaatt ccaaacggga 240  
 ttgcaactaa gtactcacgc agttgctaac ttcacccgtg gggaattggc tagattgata 300  
 cgggaagccc ccgtattaac caacctactt ttgggggggtt atgattctgt gtccgggcct 360  
 tcaactgtatt acatcgacta tcttggtact tttggaaaac tagactata 409

<210> 2965  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-058-Q1-E1-E5  
 <400> 2965

aggcaccaaa tggctccaac cgattgaggg tgggtggaaag ttgacgtctg ctttgccgcc 60  
 tctttttggt atctctcttg tgttttgcct tttcaaagct tgaagactat ttattctgta 120  
 atgttttaga ggtttcttcg gagttttttt gtactagtct tattccatgc ttcgtggtgg 180  
 gtgaaaggct cctttcacaa cagcgttgtc atgatccgc caatctctac atcttcaatt 240  
 gccaaacttat gcgcgtatat ataagtatat ttgtacagac tcatggtgta gaaagaagag 300  
 tgcaatggtt gaaaagtaac agcaaggtag taaggtagct gtanaggaag cacttgaaaa 360

<210> 2966  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-E6  
  
<400> 2966

gcaacgacgt ccggtgagac gggattccat ttcttaaaga ccttgaaagg aagaccagga 60  
taacaagacg tttcacagga gttcatcatc agacaacaat ctgtgaacta acactgggac 120  
aagtattggg ctgtacggtt ccacgaaatt ggaagacgaa atacgtgtaa ttcccgtacc 180  
attgacaacg cgtcccaccg tgtaaagcag gacgccccga gagagtagag cgagtgacca 240  
gataagacgc gagtctaatt gatgatattc ggtccactcc atctaaggct gaatcagtat 300  
ctgttgaaaa agaattctca gatatggcct gacgagtgga a 341

<210> 2967  
<211> 342  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-F1  
  
<400> 2967

agcggacgcg tgggcgacg cgtgggggaa gtgaagacgt aagacgtgaa aaaaaaagcc 60  
cagaagccaa gataaggtat caaagtaaag aaagaaggaa aaggagaaga agagagggta 120  
ggcttagaag cagcaaacca gagaggaaag cgttaaagca tgaaagaaaa gaaatccgaa 180  
aaagaagaga aaaaggtaag aaagaggacc gaatcagggt aagaggtaga ggagcaagaa 240  
gagaagagag aatgctgggt ggagtagcga aacaagagaa gggaagtaaa aggtaagaaa 300  
gaggaaaggt ttacgagaga aggaagtaga aagaagagag tg 342

<210> 2968  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-F11

<400> 2968

gacccacgag tcagcggatt ttcgtctttg tcttcgtcat gtcggacctc aacgaaagac 60

cgttgacgac ctcttccgta ctgtacgctg cagcaaagga gataggtttg cgtcattatt 120

tgttatagat agctttaaag agtttatgaa atcataggaa gacgatgtgc caaggagaat 180

cgggattttt tggaatgtaa gaatacggag gaaaacccgg aaagtgtgtc tggacaggga 240

gagaaggatga ccaactgtgt gctgcagtta ctcaaagatt tgaacgcaac ctgcccacga 300

gagtttgaag aatacagtgc gtgtcttgat aggcaatcaa gccaaactta tctgtttgat 360

cgttgtcgaa agtttgaaag aaaccta 387

<210> 2969

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-F12

<400> 2969

ggtatcgctt tatgttcgctt cccaagttgt accaccttct agtggtgagg aagaattgga 60

ctatcctcga atactcaacg cagtacttcc tagcgggtata tggatcactg gttggactag 120

tgtggatgca gaattccacg ctcgattttc agcttcttac cggacatatc aatattactt 180

tagacctgaa aatttgaatc tgtgtgctat gcaacgtgca gcacaatttt ttgtaggatga 240

acatgacttt cgtaactttt gtaaagcgga cgtttcccaa gtccaaagtt ttcgaagggt 300

tatctatgcc tgcgatataa agatagttga aatgacgcac aagaatatca tagagaggca 360

actacttgag tcgatggaaa gccagccgca tcgattggac aact 404

<210> 2970

<211> 321

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-F3

<400> 2970

agccatcgct cctcgtcgtc tcctccaacg agtaccaaaa cataaaatag aaaatggcaa 60

ctttactatc caaaaaaaga agagcagtag ccgacggtgt tttcaaagca gaacttaacg 120

agtttctgat gcgagaattg tcggaagagg gatactctgg tgtagaagtg aaacccacgc 180  
 cgttgcgaac ggaaatcgtg atccgagcta ccagaacaca aaacgtgttg ggagaaaaag 240  
 gtcgaaggat tagagaactc actgcgttgg tacagaagcg attccgtttt cctgaaggaa 300  
 cagtggaaact ttatgcggaa a 321

<210> 2971  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-058-Q1-E1-F6  
 <400> 2971

aggtgtgtag caagcgtaga gcagaagaac tgggtgtaaa ggtcgagtag tagagtaagt 60  
 gtaaaagggg aaggaaagga gagaaagagg aaagggatga aatgcagaga tctctagaga 120  
 aaggcaagaa agaaaagaaa ggaagacaca gtaaattgagg cgagaaagca taggaagtga 180  
 aacggattag gaacccgtgt agtctatgca gtaaaagaaa gaatgagtaa gaaaaaaggg 240  
 agtcattcca ccaggggagt aaaggcgcaa gaaagaaacc caaagcaatt gacgggaatc 300  
 ggaaaaaggg gtggatcacg taaattaatc cgatttaaac cgagaacctt acctctcaa 360  
 gaaagtgttg cacggctgtc gnaagaacgt gctgtgaagt gagagaacgt acgagaa 417

<210> 2972  
 <211> 354  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-F7  
 <400> 2972

aggcatgatg aagagcgcta tgaagttctt tgtatttagc attattttgg caaatgttgt 60  
 tcttactatt caagcagcaa cagttttgga gactttggag tcactgaaat atacagagta 120  
 tcttgacatg gtaaaggctg caggcctgga ctcgaggttt aacgactctg ctgtgacatg 180  
 gactgttttt gcagcaaaca atactggagt caatgccacc ttggcaccaa agcacttggt 240  
 tatttctaata atcacatcta atgcgacgga gagcaaagaa attggtgaat attatgtcaa 300  
 ccgtacaatt atgtcggatg agattaagcc aggaacaacg atccttacag cttt 354

<210> 2973  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-058-Q1-E1-F8  
  
 <400> 2973  
  
 agcgtttgga acgaagcttg acaaattccc gacaacttgc agaggtttgg aataaggctt 60  
 aacaaagacg tatactcttt gctatggaaa aaatattgca agttactcca aaggaactct 120  
 cctttcgtct ggaactgaac aaacccttg ttcaaactct taagctgaag aatatttctg 180  
 aagagacact tgcctttaag gtgaagacga cacaacccaa aaggactttt gttaagccaa 240  
 atgcagcagt aattggacca ggacaggaga tacaagtttc tattgtgttg cagcccttac 300  
 cagaattacc tccagacgca aacagttgcc gtgataagtt tctactacaa gtgatcaaag 360  
 tagacaaagg agcagaatcc gacgttcaag gccttgtgaa aaatgtgtcg ccagacgtt 419

<210> 2974  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-058-Q1-E1-G1  
  
 <400> 2974  
  
 agccaacgcg tccgcccacg cgcccgata gcagtatggc acccaaggga tccaaaagtg 60  
 taccggttgc tggaaaaaag cccattggta aagcagaaaa gaaaaaagcc aaaaagaagc 120  
 gtgcagaatc ttacagtatt tatatttaca aagtgttgaa acaagtcctat cctgacactg 180  
 gtatatcttc caaagcaatg agcatcatga attcctttgt caatgatata tttgaaagga 240  
 ttgcttccga gtctagcaag ctggcagcat actcaaagac aaaaactctt acttcgagag 300  
 aaattcaaac tgctgtacgc cttttgttac ctggagagtt gggcaagcac gc 352

<210> 2975  
 <211> 326  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-058-Q1-E1-G12

<400> 2975

gacccacacg tccgcccacg cgtccgccc cgcgtccgcg ttgtggcagg tttccgcgca 60

ccacgaccaa caaaaggaca cgattattta tgtgaagctc tacttattga ttcaactcat 120

tacgctccgg gagaggaagt taccgtgggt ttggtcaaca agtcaacttc gaaagttaac 180

cctggcaaat ggttaagtga aaatcctccg gttaatggcg gtaaccttcc aaagccatga 240

accaaactgg caccaaaggg cccacttgaa gaaagttgtg ttgagcttat tgatggcgaa 300

gttgatgaag atattggagt tgttgc 326

<210> 2976

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-G2

<400> 2976

tcccggggac gcaagtggca cgacggaagg tagattggga agaaggcaag agagtgaaga 60

agctgcttct tcaagtggag gagacgttcc agttcccaag atacctctca ttcgtcctct 120

tgtaaacagg cgtgctgcag tctatcaa atctcgaac tttatttctt catacactcc 180

ttcaaattcg tcaagttacg acgtgcgtcc ctctgtgtgt tttgcccccc aaatgtatgg 240

gagtggcaaa accatattag ggaagcactt tacggaattt gttttgttga accggcaggt 300

tttagagaag tatataatcg ggtttctctg aattgctggc agtggagtga gcgc 354

<210> 2977

<211> 281

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-G3

<400> 2977

ctgcctcttc aagtggatga gacgttccac ttcccaagat acctctcatt cgtcctcttg 60

ttaacaggcg tgctgcagtc tatcaaataa tctcgaactt gatttcttca tacactcctt 120

catattcgctc aagttatcac gtgcgtcgct cagtgtgttt tgccccccag atgtatggga 180

atgtgaaaaa cagtattatg gaagcacttt atggaatttg ttttgttgaa cccgcaggtt 240



ttaaacaagt atataatcgg gtttcctgga attgctggca a 281

<210> 2978  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-G6  
  
<400> 2978

agcggacgcg tggggattag ttgtagtggt gttgtctttg cagtagcgtg atactaggat 60  
gggagggtttc ggctactttt taaagtcaac tttgttttct ggcagacacc cggagattat 120  
tccattgggtt tccgctattg ctctgtgtgg agtttgtgcg gtttttgtga gcatcgacaa 180  
cttgtttttat aatccaaccg tggtagctct caagtcagag cgggaagcgt attcgcgcaa 240  
tgagaggcaa cgtgactatg aagacagacc ctttttgaag ctggtgaaac cacttcgtga 300  
ccgtcctatc agttttattt ccccaaata gaataatagc aggattcctc attagttgga 360  
tagtaaaata aatagttggt ga 382

<210> 2979  
<211> 324  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-G7  
  
<400> 2979

gacccacgac gtcagcccac gcgtccgccc acgcgtccgg gaaggaggcc aaaatttggc 60  
ccaagatctg aacgagctca tcttttggtt ccacagacat gtcgaacgac aatcagtctg 120  
agaagagcac tttgaaagaa gcggaggaga agctgcagag tgcagttcat actggaacag 180  
agaaagtttc tcaggtgttg agcgacgtca aggaaactgt gacggagaaa tagaaggaat 240  
ggacagcgcc aaaaagtagc caagaagaag cataagatta agcacaagat gcgaaagaag 300  
aggctaataa agcttttaata gcta 324

<210> 2980  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-G8

<400> 2980

cttttatgag gaggggtggct gggagttttt aaatcctgat tcttcagagg aaggctcagg 60  
caaggaagaa gatgaggagt ctagtgaagc gtcgtataat ccatcggata tggagtctga 120  
ggatgattcc gaggagtatg aaccagatga cgatgtggat acgaaggaac ttgaagagag 180  
ttctggtgga gagggccgaac taagttcaga agaagaaggc ttagattggg atgaaatgga 240  
aagacgagcc gcagaagaag acaaggaaaa gcgtcgcttt ccggaagacg acagagaaac 300  
gaacaaatcc cgcaagcgat cgcgtcgttg acgcatcgtc gtccttgaag aataaattca 360  
acgcattttc t 371

<210> 2981

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-G9

<400> 2981

agcattcctg cacgaagagc aaaaagatga ttggattttg ttgttctgtc gttggaaata 60  
aactatggag tcagcaacag tgcaaagggt gttttttatc gtttgctttc aaaagaaaag 120  
cagtaactcg acatgtcaag ttgtttaaaa ttgtagctgg acaacacacg acaacaagc 180  
aagaaacctc ttccaccaat cccttggaga gaacagtaga taccgagcag gcacaagggt 240  
tgcataatac ttttgaagaa aaacctttga atgaaacctt ggatagaacg caaagatttg 300  
taccaattat ggcgccaac aggtgaagaa ctttttaggc agtatcggat tccgttcggc 360  
ctaaccaacg aacagttggt tgaaaagttg caactgttat cagaaagcat agaa 414

<210> 2982

<211> 377

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H1

<400> 2982

agattggaga aggaagtaga atggttcgtg agttgttcgt gatggctcgc gaacatgctc 60

cttctattat ctttatgtat gagattgatt ccatcggttc aactcgtatc gattcgggaa 120  
attcgggaag tggtgactcc gaagtccaaa gaaccatggt ggagcttttg aatcaattag 180  
atgggttcga accacaccag aacatcaaag tactgatggc aaccaaccga atagatattc 240  
tggatcctgc gttgcttcgc cctggtcgaa tcgataggaa gattgaattt cctaattcaa 300  
atgaagacgc cagactcgat attttaaaga ttcattcaag aaagatgaat cttgttcgag 360  
gcatcgactt gaaaaaag 377

<210> 2983  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H11

<400> 2983  
agcggacgcg tgggcagtgg aggaagctgg agtatctgga aagattcttt gcaagttggg 60  
caagtggaaa ggctcgaatg atcaaaagtt gatcatgtac ttgctattag tagaacaaga 120  
actgacaaag aatgacacca gatggaaaga gaggaatgag cgacctcgga gatggttaac 180  
gtttgacgaa gcagagaaga ctattttgca agtggagagt ggtattcgaa ggcttgagct 240  
aataagaatg cttttaatag cgaaagcaag aataatgact ttggacaaca atccagagtc 300  
ttattccacg gactcttctc ctgaagagga gaataacgaa aaggaatttt aacgtgttgt 360  
tgttgttgtt gtataatata catatatata tgtgcggggtc aacaataaat tcttat 416

<210> 2984  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H12

<400> 2984  
accacagagt cagcccacgc gtccgcggac gcgtgggcga ttttgcgcaa cctttgcatc 60  
ccctaattgt tggtagagac ggcggaag cgaagccttt gaagaagcca aagcctactt 120  
cgaaggaact gacggaggag gatttggaat ttaagaaaag acaaaaggag gagcaggcca 180  
agttgaaagc agtcaacag cagttgaaag gaaagggcaa gaagtgactt tgcttctacg 240

agttagctaa acaaacgctt tatttgtttc tacaactatt cgggtacttt ttgatagttt 300  
ccgtgaacaa gaattaaaca ttctttctcg t 331

<210> 2985  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-058-Q1-E1-H2  
  
<400> 2985

agcccacgcg tccgcccacg cgcccgcgga cgcgtggggc gtaactttgt gggtttcctt 60  
acaagatgtc ttttatattt cgtggaatca aaggcctttc caatcctcgt tatggacaac 120  
ccgtggattt acccaccgga ataatgtata gcttgaagca gatgtcgttc attgtccagt 180  
ttgctttttc tgtttagtc attgctatgt tctcncaagt taccttttat ctataccgtg 240  
actttaagtg tgctttcgat gggcattggg attacgccac gcatagcgaa gtgtctggtc 300  
ctgtggggtta ttgccgttac ttcatgtctt tggggagcat ttccatcgta ctttttagcta 360  
ttgttgccgt agctactttt ggaacgctgt attttgaagt tcctatggac tatatccttt 420  
a 421

<210> 2986  
<211> 374  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-058-Q1-E1-H3  
  
<400> 2986

aggatattcg agtactttgt caatctggca attattcttc attaaccagc catactagtc 60  
agtatgatgg tgcagaaagt tatgcgcttt gcgactcgaa tcaagttctc caaggtgtcc 120  
atgcaactat ttatagtac gataattata taggaagcgt acgtggatac tgtgtgtcag 180  
tcaatacttc aagcattgca agtcctgatt ccttgatgat gaagaaacct ccagtatcat 240  
tgagaagcat tcgagctcgt tcctgaatgg cgttgctgtg tggataactg cgatatacat 300  
atatatatat tcaggtatcc acagctcatt tattcaggat gaacaatcac ttttcgtagt 360

tgctcgtgtgt cgtg

374

<210> 2987

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H4

<400> 2987

cccgcccaa gccacacggc aaagtcacca gccaccgttc tcgtgtgatg ttcgcaagca 60  
aagcaaaaga gtggcgaaaa cccccgcaca taagtccgtg gacaaacttt aaggcttgct 120  
ttactggttt tggaacagcc ttggcacttt ttaccggtta tgttgttttt aaacaggcct 180  
aatactattt ttacaaccct acacagacgc aagtccccga gacgaaatcg gaagaacttg 240  
gtccttgagt ttcgtgttct tgtaaagttg gaacctcacg tctatcccta catgggtgtca 300  
aagacaggcc actgataagg ctaaagtttt gtccctcgttc cttgggccaa agtaataaag 360  
agtgttatgt tttctc 376

<210> 2988

<211> 373

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H5

<400> 2988

aggggcgcgc aacttccatc actgtctatg gtcaaagtgg ttggctgtcc accgtttcag 60  
tcaccacctt tatggttatc tttttcgatt atcagtgggt tatgtatatt cacttcagta 120  
acctttgtac aagttgatat gggagtagtg ttggaatggc tccgaaggct ttccctatcc 180  
atatttcgca cccgtggagt ttgctgttg gcttgtggta tggcttgggg tgcccatctg 240  
tttgaagcct tggtagcata tcgaatatgt acaagacttg gtggtggaaa agatacgtgg 300  
aatggacga tacaaacttt ttgcgtagga tacccttccc ttcgtttgtt gcagaaaagg 360  
gaaaggaaga cga 373

<210> 2989

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H6

<400> 2989

aggattgtga aaaatgtttg cagctagatc ctcaatttgt aagagcttat gccagaaaag 60  
gtgctattca tttctatatg aaagaatatc ataagagttt ggatgcctat caacaaggac 120  
ttcaagtggg tcctaataat gcagaattga aggaaggatt gcagaaaact ttgagtgcta 180  
ttgcagaaca acaacgctcc gagaaacctg atgaagaaca aatcaaacat gcaatggcag 240  
atcctgaaat tcaaaagata ttgatggatc ctgtattaca aaatttgta caagaagcgc 300  
aatccaatcc ttcttgata cagaaagcaa tgtctagtcc aggaatggca gcaaagatac 360  
aaaaacttgt tgctgcaggt attttacgt 389

<210> 2990

<211> 382

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-058-Q1-E1-H7

<400> 2990

aatgtcccg ctcgaccac gacgtcagcg gacgcgtggg cggacgcgtg ggcggacgcg 60  
tggggtgaaga agcatatcgt gaacaacagc ggcgagcaga ggaagaaaga ggcaaatac 120  
ggaaagcagt aaaagaagaa agagaaagga aaaaactgag tatcaggaag aaaagaggga 180  
gtagatgagg aaagaaagat caaggaagta agagtaagag aaggagtaat gtgaatgaaa 240  
gcaggaaagt atttgaagaa gagagtgtaa agcacgtacc ttttgcataa tgtcccagcg 300  
agtgaagag gaagcnaaaa gaaagaaaaa gaagtagcca ggtaagaccc gaagctagtt 360  
gatcttatgc tgtccaagcg aa 382

<210> 2991

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-058-Q1-E1-H8

<400> 2991

gacccacgac gtcagccac gcgtccgcc acgcgtccgc ggacgcgtgg gcggacgcgt 60  
 ggggaaagaa atgtgggtga caagttgcaa aggacgcaag gaggaggatc atcgaatatg 120  
 agagcactac agcaacttgt tgcgtttcaa cagcatagct ttttatctca tcacaaaaag 180  
 aatatatttt atatgcctc tttttctcat tgccaaaagt cctcactcaa gtggtctttt 240  
 cctagaaggg cggcatctcg tcttttatct tgtcatcaag tatttgaaat aacccccgac 300  
 aaacctgcag ttgttgcga ccaactttgt aaatcattca gaatagcaaa gagtcgtgat 360  
 agtaagcaac cttctcgtgt ggattccgt 389

<210> 2992  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-058-Q1-E1-H9  
 <400> 2992

gctttctttg taggaaattt gcgatgtccg acgatcagac gacaagactc ggctctttgt 60  
 gggtgtctcg acaactatgt atctctctat ggatgttgtg gtgtggaatg aggtactcgt 120  
 ataggttgga acgtttggtc atccattgac tagtgaataa tactcgattc cgtatatattt 180  
 atctctttat tttctacttg tacataaaac tagttatatg tctggtagct ataaaagccc 240  
 tttgccatct caacatttat attatttgggt gttggtgaga gacgagatgg caatctccac 300  
 tttgcttcga gaaagtagtg tcactatgac acccaatgtc ttgtcacttg aaatataata 360  
 gaacataggc aatatttcgt gctgcaaagg cacttgatgc tgaaataaaa a 411

<210> 2993  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-A1  
 <400> 2993

agcccacgcg tccgcccacg cgtcggccca cccgtccgcc cacgcgtccg tgaatatatg 60  
 gcaacgacgg gctttgtttc atcgtatcaa ggtgttgcgt tacgaccggc ttggaggaag 120  
 caaactatcc gaaaccagca aacaaatacc atattgttca gaaaccagc aaagtcttcg 180

aaagttaggt tatcgatacc ccttttcatg cagcaaactt ccaaggatga cgcggaaccc 240  
gagaaacaat cgagtcaaca gggctccaaa atgtcaccaa ctactaggat tgcaggtgat 300  
atctttttct ttactattac tatggcactt tttgcagtca ctctggcggc tactttgtat 360  
cgctcctacc ttccgc 376

<210> 2994  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-059-Q1-E1-A11  
<400> 2994

acgcgtcagg acaacgcgat gagagtaaga gtcaagtctt cggtgtatac ttccggcaaag 60  
aagagatttc agtttttggc ttttgataag tcagaacctt ggaagtatgg ttataacaaa 120  
ctacgggtatc ttcaaggcga aataaagaat aaaaagtggc tgagtcctgg acatattact 180  
tcgaggaatg ataagaagtg gcataaagtt cgacacgaaa gtgactagtg tgcttgtcac 240  
aaggaggaag gttgtgcaat gagagcccaa gtaatccatc aaaggagctg aacaaaaggt 300  
gctttgaatt cggaacagtc tcttgagtaa aaataaagaa gagcggtaac tcaaaancaa 360  
ctggcaaata aataccctt ctttatccag tcttttatag gtatgcgctc caaaatagtc 420  
acg 423

<210> 2995  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-A12  
<400> 2995

agccacgcgt ccgcgccttt cactggatcc ataatttaca tcattagtag gattgaattt 60  
gaccatcacc aagaattctt caggtacatt tgtaggtcct ttccgagtgg taaaacctga 120  
tgtcgtggtt ggctcatcct ttatcgatgt gattgatgga gttcttgctc caccaccacc 180  
aacttccgcc acaagtgtc caactgctgt aacttctgct cccatcacta cagtttttcc 240



aagcagcgta accagtgcac caatctctac aggaattcca agtgggtgta taagtactag 300  
 tgttcccact agtgttgctg gtgttcccaa tggagcttct attatattac ctcaagcttg 360  
 ctaaatecgt atagttgggt attgcaaattg tctcgctgtg tgtgtgttgg tgtgtgtgtg 420

<210> 2996  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-A2  
 <400> 2996

aggaagaaaa cgatatatgg gcaattcagc tggttgtgag tacaagttat aataatgaag 60  
 tttccagtca ctttacggag aagcagaact gggtaatgaa tacaggagtc tatcatgaga 120  
 ggcgttttga aaagaaggga ccttcacctg gtgcttgga agacgcgagt agttccaatt 180  
 ctgataaaga aggtctccat attggcccaa actgtcaact ttagtattgc tctgttgata 240  
 acctgaaaga cttcttgggt cagcaagttt atgaacaact ccagaaagta tactcggata 300  
 atgaaagcgt tttgatgaag ttggatcctc tcgcgaagtt gttgggaaga aatcttgaac 360  
 gattatggag gagcgatgtt cctgtggtgc ccg 393

<210> 2997  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-A4  
 <400> 2997

agagtcgaac cagaagttct tatggacggc gatcacacca ttgaagactc acaaagagtt 60  
 acggagagag tgttgtacga ggtatatcat gcgttacatc aacagcatgt attattagaa 120  
 gggactcttt taaagcccaa tatggttctt ccgggttctg actgcaagga caaagcttct 180  
 ccaaagaaaa tcgcagagta tacaattcgt acgttacagc gtactgtgcc agctgccgta 240  
 cctggcattg tctttttatc aggtggacag tcagaagaag aagcttccgt gaatctcaac 300  
 gccatgaatc aagtggagat gatcaagcct tggaaacttt ccttttctta cggacgtgct 360  
 ttgcagtctt catgtctgaa agcgtggcaa ggaaaggcag agaattg 406

<210> 2998  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-A5  
 <400> 2998  
 aagggggtttg gcattggaca ctatatggca agaagcgacg acgaatacga ctatttggtc 60  
 aaaattgttc ttattggaga ttccgggggc ggcaagtcaa accttctcgc gcggtttact 120  
 cgcaacgagt ttaacctcga gtccaagtcc acgattgggg taaaatttgc gacgaaaagt 180  
 gttcaaaacc gaagggaaga cattaanaagc acaattatgg gacactgctg gtcaagaacg 240  
 gtaccgtgct atcacctctg cgtattatcg aggtgccgtt ggagcacttc tcgtatacga 300  
 tatctcgaag aaggaatcct ttattggtgt agaaaaatgg ctaaaagagc ttcgtgatca 360  
 cgcggatagt aatatag 377

<210> 2999  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-A6  
 <400> 2999  
 agcaaattga acaaatgatg gattcgtctt gctcttccca ggctcaagca tcgagcgaca 60  
 acctgcgaga gttttttttt tctgtgtggt aaactgaagg agacaaaacg gaaagggttg 120  
 attgatcacc atgtccgtca acccgagtcc gtcagcgatc atatgtaccg tatggctttg 180  
 atctgttttt gtttagcacc aagtcactta aatcgagaaa agttaataaa actagcactg 240  
 gttcatgata taggagagtc tctggttga gatatcacc cecatgatgg tgtctcgccg 300  
 gaagaaaaga agaaactgga gaccgaagcg ttttgcaaaa tacgagacga atatttatcg 360  
 tcttgtgcag ttggt 375

<210> 3000  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-A7

<400> 3000

agcggttttgg tgcagttgta cattcaacat catcaaatgc caaagggagg aaagaaagat 60  
tcttcaaaga aagaagccac aagtaaacct gcagcagcag atgctacaaa gacgacagaa 120  
aagtctgggtc cggaagccaa gttgaaggga actggtgcat agaaacaata gaaagttgac 180  
tatgcatggt cctgttatgt tttgtgagtt ctgtttgata gtttccagct attcttttgg 240  
tagtgaataa agagaaaaat ttttagatgt acacaatcac cccacatgat ggtgtctcgc 300  
cggaagaaaa aaaaggaaac tggagaccga agcggttttgc aaaatacgag acgaatat 358

<210> 3001

<211> 427

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-A9

<400> 3001

agaaataaac aaccaccatc aggaagaaca accattcaag gagtccgcgt cgaaagaagt 60  
caacgacaag ttcgaccaa cctatgccga aagcggttgcc aaggaaatca tagaaagcac 120  
cgtggggagaa gagaaatacg aacacacaaa gacagtggaa tggaccaatc aaatgtgtga 180  
aaaaatactg agcaagttgt tggagctgca aaagcctttc aaatatatag tctcttggtc 240  
tttattgcaa aagaaaggag ccggattcca tactgcgacg acgtgttatt gggatgccga 300  
atgtgaccaa tgctgtactg tcaaacatga gaccaaatac ttgcacgtca taagcaccaa 360  
ttaagcgcggttcaattcac tagtcaaagt atcattctag cccgcacaca aatatgttca 420  
actcgta 427

<210> 3002

<211> 370

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-B1

<400> 3002

aggaagaaaa gagagagaag aaagaaaaga agagaaaagc cgtactgaag accgacacaa 60

gtactcgagg agaaaggaga cccaaattaa ggtgagagaa tggacgataa ggaactaagc 120  
aaaaggatat ggtatctgcg gtagaacata tgaaagaagc agcaccgact gtttagcaaa 180  
aacacagcac tctgcagaaa agagaaaatg taaagtatag agtgtgcggc ctgccaaata 240  
gtagagaaga aatcgatgaa agtgaaagcg agtaaaagat gaggtataga gaatggcggg 300  
cctaacagta aggatccaaa ggtagcgaag taaatagacg tttgaaaggc gtccagtatg 360  
aaaggagaaa 370

<210> 3003  
<211> 310  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-059-Q1-E1-B11

<400> 3003  
ccggagaaaa aaaagaaaag aagaaaaaaa cccttctgaa aaaccacaca agttctccaa 60  
ggaaaaaggg aaccanattt agggtaaaaa atggacgata aggaactaag caaaaggata 120  
tggtatctgc ggtagaacat atgaaagaag cagcaccgac tgtttagcaa aaacacagca 180  
ctctgcagaa aagagaaaat gtaaagtata gagtgtgcgg cctgccaaat agtagagaag 240  
aaatcgatga aagtgaaagc gagtaaaaga tgaggtatag agaatggcgg tcctaacagt 300  
aaggatccaa 310

<210> 3004  
<211> 343  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-B12

<400> 3004  
caagccttca gccaaagcctt cggccaagcc ttcggaaatt cgttgctttg ggaattaagg 60  
ctgaaaagga gaattatttc gcttccggac cctgaaacaa acactcatat atacatatac 120  
atatattttc tatagatata gctattcttc aaatggtttc caaaaagacg aaaaaatcca 180  
ctgaaacagt ctcttcaaga ttggctctcg ttatgaaaag cggaaagacc acgttgggct 240  
tgaaaagtac gttgaagagc cttcgtcagg gaaaaacaaa actcgtgggc ttggcaata 300

actgtcctcc tcttgtagcg tcacagattg aatattactg tct 343

<210> 3005  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-059-Q1-E1-B3  
  
<400> 3005

gaccacgcgt cagggcaatt cgaatcatct acttaaagac acctttttcc ccttcctacg 60  
cacgaacgct cgtaatatgt tgtttcattg ctctgtaagt ttatgtacga aaattataga 120  
aaccaaagaa actgcatatc ttgaacgata caaaggtctt tggatccttt ggggaatagt 180  
cctaggtgga ttcagtgaat gttgttactg ttccccggag gtcttgtgaa ccatcagctc 240  
tagtatagtg acttttgcac acaaactatt ataaaagtat ttcacggaaa gtattgaaat 300  
ttttgacttt gcagtttgca gtcgtccagt aaacactaga ttactagtta aaaaatgtaa 360  
acgttaagta ataaaatata tgttcaaacg aaaccaa 397

<210> 3006  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-059-Q1-E1-B5  
  
<400> 3006

cgctgggttg ataggagacg ttggctggta tgtgggttca tttattctat catttggttg 60  
atacgatcgt aaagttatct cgggtgatgc agttggcaat gaaacggaag gaggatcgat 120  
ggacgattgc gcaggagttg tggagtttga agagaacatt actgcacact ttgactgttg 180  
attcacaagt gggttatagc aatgggggtga atgttttagt acacttggaa tgttgagagt 240  
ggaacgtttt caaggagctc ccgttcctaa taatacagaa gagaaggatc ccaatttgca 300  
cttccagttt cgtcaacttg gagaagaaag aaatggccgc attgaaaggg tagaaagggg 360  
aaccaaagac atttgggttg caaatgttgg gnggaaaaca ca 402

<210> 3007

<211> 282  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-B6  
 <400> 3007  
 cccacgcgtc cggagtcaga gtcatttggt cgaatgtttg aaattggtgc cggtagaagg 60  
 agtgctttta gtttgtatgt ggatgaagac gaataagaaa gtgacgaaga ggaagaagaa 120  
 gaagacaaag aggaagaaat gggcagtgag tatggaatga gtagtgattc tgattccagt 180  
 agatttatga gttatgacga agaagaagaa gatagttcag atgacgaaga tcaagtctct 240  
 gatgttccca tgtttggcct gatcgtagat gaagaagaaa tg 282

<210> 3008  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-B8  
 <400> 3008  
 agcgtatgca ggaaagaaga aggtaaagga agagaaggaa gaagcagaga gggactatga 60  
 gcgagaaggt ggatagtcga tagggaaaaa gcccataagc caagataagg tatcaaagta 120  
 aagaaagaag gaaaaggaga agaagagagg gtaggcttag aagcagcaaa ccagagagga 180  
 aagcgttaaa gcatgaaaga aaagaaatcc gaaaaagaag agaaaaaggg aagaaaagag 240  
 ggagtagatg aggaaagaaa gatcaaggaa gtaagagtaa gagaaggagt aatgtgaatg 300  
 aaagcaggaa agtatttgaa gaagagagtg taaagcgcgt accttttgca taatgtccca 360  
 gcgagtg 367

<210> 3009  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-B9  
 <400> 3009  
 cgggtcgggc cacgcgtcag cccaagcgtc cgcccacgcg tccgcccacg cgtccgcaac 60

atcatccgtc agaaatgcaa agtaaattgga gtatggagca aaaagaatat gaagctccca 120  
aagatgttga cgaaatccaa gaacaacaac ttccgtttat ccaagtgtgg aaacatggcc 180  
actcagatat aactgtttgt agaattattcg gagtgtgtat tggctcaaaa ggtctccgtg 240  
tattccagaa tactagtaag gcaaaaaaac aacttgaata ctgtggaatc aaacctcatc 300  
tttatgaaag cagtggagtt gaagagtggg taaaaatattc agcaatgtct aactattcaa 360  
ttcaacttga ccaagaactc cgttcctaatt ttgccttaag gaacacatat gccccatttc 420  
attgaagatg taaccccct 439

<210> 3010  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-C1  
<400> 3010

agcccacgcg tccggaatcc agtgtttttc agcttaattct ttgcagtgtc tgtagttgca 60  
gtggcatgtc cttgtgcatt gggtttagca actccttctg catttatgac tgcttctagt 120  
gtcgctgttc gttatggaat attgcttaaa gaaagtatcg tagtacaata tctataccac 180  
gctgcctgta tcatttttca taagacagga accctgactt gtggaaagcc aaaggtctca 240  
gaagttcaag gtcttaagat agttgcaggt ctcgatattg acaagataat aagtttggtt 300  
gctcaagtgg agagtcactc agaccatcct tatgcaaattg ctattgttcg ttacgcggaa 360  
gaaactcgag gtttgcattgt ttc 383

<210> 3011  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-C10  
<400> 3011

agatcattcc agtgctattc cagtgaacaa aaacggcaat gacttttgta atgcaccttt 60  
cgctcaatgt cctcaagata cttactactt tgacctcgtc gataaatccg ataacctttc 120  
catcaaattg tattggagat gggcacccga gttttccgat attcaatgtc ccatgaaagt 180

tccttctggt tctgttcccg gtcacaatta tagttttcct agtgggccag atactgtttc 240  
atgtgatatc aatatcatgg acgctgggtca atgggaattg tttgcaaagg atgccaatgt 300  
gtctactgca ggctattctc aaggcataag taatttgagc aaatgtttct cttccgataa 360  
gagtgcccaa tacttttggga ttgccgctta tgcattgaca ccttcccaac tgaaaatc 418

<210> 3012  
<211> 317  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-C11  
<400> 3012

ccggccaagc cttcggccaa ccggtcggcc aagcgtccgg gaagaaagag gcaaatacgg 60  
gaaagcagta aaagaagaaa gagaaaggaa aaaactgagt atcaggaaga aaagagggag 120  
tagatgagga aagaaagatc aaggaagtaa gagtaagaga aggagtaatg tgaatgaaag 180  
caggaaagta tttgaagaag agagtgtaaa gcgcgtacct tttgcataat gtcccagcga 240  
gtgaaagagg aagcaaaaag aaagaaaaag aagtagccag gtaagacccg aagctagttg 300  
atcttatgct gtccaag 317

<210> 3013  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-C12  
<400> 3013

agtgaagaa gtcgcctact ttggtgccaa gtacgaacga ttccttggat aacaacttgt 60  
tgcttgactt ggggttaaata ttagtattta caagaatggc tagtgtttcg ggtcttcctc 120  
gaagaattat aaaggagacg gaaaagttac ttcaggatcc agttcctgga attagtgtg 180  
ttcctcacga agacaatgct cgttatttca atgtgattat ccagggtcct gattcttccc 240  
cttatgaagg aggaacattc aagttggagt tatttcttcc cgaagactat cccatggctc 300  
ctcccaaagt tcgtttcttg acaaagatat atcatccgaa tattgaccgc ttgggaaaga 360  
tctgtttgga tatattgaaa gataaatgga gtccagcatt gcaaatacga actgtt 416



<210> 3014  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-C2  
 <400> 3014  
 agcccacgcg tccgcattgt tgaattttcc tgtttcgttt acttgtcttt ttgttgagtt 60  
 atcatggcac gaacaaaaca aacagcacgc aagtctaccg gtggttaaggc acctcgaaag 120  
 cacttggcaa ccaaggcagc aagaaaatcc gcacccgtaa ctggaggagt gaagaagccc 180  
 catcgttacc gtcccgttac tgtcgccctg agagaaattc gcaagtacca gaagagcact 240  
 gaactttctta tccgaaagt tgcctttccaa aggttggttc gtgaaattgc tcaagacttt 300  
 aagacggacc tacgtttcca aacttcggcg gtgactgcc ttcaagaagc ctcggaagca 360  
 tacttggtcg gtttgtttga agataccaat ctttgcgcaa ttcatgcca 409

<210> 3015  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-C3  
 <400> 3015  
 cgaccacgcg tcagcccacg cgcccgtttt ttttattttt cagtttcgtc tatttgtcgt 60  
 tttgatgtgt tatcatggga ccatcaaat aggacgagc caagtctact ggtggtatgg 120  
 ctgctccaaa tcacttggtg atcaaagcaa caagagcgat ccgcaccctt aactggaaga 180  
 gtgtcgaagc cacatcggtt gcgtcacggt actgtcgccc tgagacaaat tcttctgtat 240  
 cacaaaacga ctgaacttct tatcggcaag ttgcctttcc aagtgtgat tcgtgaaatt 300  
 gctcaagact ttatgaccga cctacgtttc caggcttcgg ccgtgactgg ccttcaagaa 360  
 gcctcgggag cataccta atcggtttgtt 389

<210> 3016  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-059-Q1-E1-C4

<400> 3016

agcacgttca taggagtgaataataacgttc ttcccgatgc attatttggg attaggagga 60  
atgccacgta ggataggaga atatgcggtat ggatatgagg gatggaatag ggtagcgagt 120  
tatggatcga taataacggt gttatcgatg ttatactgga tgtggttggg agtgaagagt 180  
tgggagaagg gtaaggagag tgagttaagg tgggaaggaa ggagtataga gtgggggtatg 240  
agtaggatag gttatcataa ctggaaggag gaggtgatgt tagtgaaggg gatggggtaa 300  
ggccgagtan gaggaggtaa tggaatttgg atccgtgtgg tgggtggttcg agtccaccta 360  
ccccagtggg ggtaatggag aagagaagaa ag 392

<210> 3017  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-C5

<400> 3017

tcccggtcgc acccacacgt cacgcccacg cgtcgcacca cgcgtccgcg tgtctccatt 60  
tgctgtctct cgacgctcat tcgatcgtcg ctttgtagca acctaagaga cttgtttttt 120  
tctcttttgc tttctcttaa ctacggtaca ggtattgggg gtttggtgaa agtattgccaa 180  
aagggaaaga gtcacttacg ttcattgggtta cacgtaaagc tcgtgatggg ggcttgccct 240  
ttgcaacctc tccaaagaac ctgggagtat cacttccaac aaatatggag cgaaatggaa 300  
agcgacagga aactgtgttt cggctctgca atagaaacga acagaaaacg gaaagcgta 360  
agaaggaaag taccctctta gcttctatgt ttggtgatga ctcttcggaa acagttgaag 420  
gaaaaatctg tgg 433

<210> 3018  
<211> 399  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-D1

<400> 3018

ccggctcgac cacgcgtcag cccacgcgtc cggttaagaaa aaagggagtc attccaacaa 60  
 gggagtaaag gcgcaagaaa gaaacccaaa gcaattgacg ggaatcgga aaaggggtgg 120  
 atcacgtaaa ttaatccgat taaaccgaga accttacctc tccaagaagg tggtgcacgg 180  
 ctgtcgaaag aacgtgctgt gaagtgagag aacgtacgag aaagccaagt gaggaaaaga 240  
 aggcaagtaa agggcggtccc gagaaaggaa agggcgtaag acgtgataca gagtaggaag 300  
 aaaagagaag agagctagaa aggaggtaaa agaagagtaa aaggactaga agaggtacgg 360  
 aattcacgag gaaggagcgt gaaggaagga ggaatccca 399

<210> 3019  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-D11  
 <400> 3019

ttctgtacga acctcgtctt aagagtctgt tcaaggccac agtgctatgt tgccaagctt 60  
 ggtgcttaac catccacgtt gagcttttat ttttatctct ggtctttctc gtataggaca 120  
 ctgataggca aaacacctcg acacttgga ctttcgaggt ctatcgtaat aaacactaaa 180  
 tttgtaaagt tatctgctgc ttgcagtcga aacttcagga tgccttgtgt tgaggcatca 240  
 gctggtgctt ggttgactaa gattcttcca aaaatatctt ggatacctag aggaaaaaaaa 300  
 tccatccaaa aaatttctaa gcccaaccagc caatcaagac aagggcaggg aaccacgaca 360  
 gtgcttgctt gttgacacag 380

<210> 3020  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-059-Q1-E1-D12  
 <400> 3020

ccaagccttc gccggaccct tgggcgggaa aattcgggtt tccgtggttg tggtggttgt 60  
 ggtgttatta taatatgcct tctttacaag aagatttgct tcatccagat cccgcggtgg 120

aggcacgaaa acacaagttg agaaggcttg taccgagtc caactcgttt ttcattggacg 180  
 tcaagtgtcc aggttggttt cagattacta ctgtctttag tcacgtcaa acggtggtga 240  
 tgtgtggaaa ctgttctact gttctttgtc aaccacaggt tggtaaagca agattaatgg 300  
 aatcctgttc gtttagaaag aaagcggatt gaggtaaagt gnacaagtcc gctgtcatag 360  
 aaacttaaga ggaaatccaa caaaaagtct agtatccacg aggtt 405

<210> 3021  
 <211> 145  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-D2  
 <400> 3021

caagccttcg gaaaaaaaaa aaggaaacaa atcaacaaag aaaataaaag aacaaaaaaaa 60  
 aaaacaaaaa acaataaca gaaaacaaga aaaagggtga gatcaaatgg ggggaatccg 120  
 aataaaacga taaaccttac atcgg 145

<210> 3022  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-D3  
 <400> 3022

cgcgtcaacc cagcgtccg ataagaaaaa agggagtcac tccaccaacg gactaaaggc 60  
 gcaagaaaaa aacccaaaag cacttgacag gaatcgcaac aaaagggtgg atcacgtggg 120  
 gggatccgct taaacccaaa accttaacct cggccaagaa ggtgttgac tgctgtccaa 180  
 agaacgtgct gtgaagtgag acaacgtccc agaaagccac gtgaggaata caaggcaagt 240  
 cgagggcggc ccaacaacgg agacggcgta cgacgtgata aacactcaga acaaccaga 300  
 acacatctac aatgaggta aaacacgact aaaacgacta gaccacgtac ggaattcact 360  
 acgaa 365

<210> 3023  
 <211> 408  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-D4

<400> 3023

aggggaaaat cccgttcaaa ttaggctaag ggtgcttggg attaccggca tggttctttt 60  
cgagtttgac gaagaagact tgctgtcagc agatgacact atttttaacg tgggaaggtc 120  
tggagatgag tgggtggaagg agttgagttg ggaagaaagc aacctttttc gagtagcgtc 180  
ggaacagagc ttgagcggct tggcaagtac ttctggaatt gccgagtttg actcgaggaa 240  
gcttttttct ggagtgccta agaaggaatt taaagaaggc ggcgagacga cagtgattga 300  
ttatttgtca aacgagtttt atccaacctc cgcccctaga atatccgaac cttgtgcgtc 360  
gtctagctat tcacacgcaa tgcctccaac agaagcgtcg ttgaattc 408

<210> 3024

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-059-Q1-E1-D8

<400> 3024

agtgtttgtt ggtgtgtgtg tggaatgacg agtgtccata ccgaagacac tt'caaatggg 60  
gaaaaagtat tcttgcggtt agaaaaaagg ttccaatatt tggaatatct agaaaaaagt 120  
gcgttggatc ccaatatact cgtacctgcg tggatcgag acaatgtgca aaatactttg 180  
ccgttggtat cctttttgtt cgagcgtttg gaacaagaac atgtggtaga tattgcagaa 240  
gaggatttcg atggccatat agatgatagc attcagcaca agatacagga actagaaaaa 300  
tggaacaaaa aatggaagtc gttggaagaa ttggcatcga tggttgcgac cacccaatga 360  
cgangaggaa aggagacacg ataataagac catattttca tttttc 406

<210> 3025

<211> 291

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-D9

<400> 3025

agcaaaaaat ggggaaagga caagctttga ttcaaacaaa tgaatggttt tcaggtttat 60  
 cgggattgaa cggtataaac actgatgaag aagaaccgac tttgtgattg cttcgctact 120  
 gtagtctttt attttgtgga tgttcacagg gtgccattca tgctgtttta tgatggagtt 180  
 gttagtaata attggtgaat atatttttagg attttagtaa tctaaaaaaa agccatgttg 240  
 tttcttgttt gggttttgat aaaggatgtg acggaattat ttgtcttgtg g 291

<210> 3026  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-E1  
 <400> 3026

gaccacgcgt cagcggacgc gtgggtttgt gattctctca agtggggaca accatataac 60  
 aatattatgg cagacacaga actacttgca gcgattcagg aagttttaaa aaagtctctt 120  
 atgggttgatg gtgtgacgag agggattcgc gaatccgttc gatgcattga agccggacaa 180  
 gcccaactag tcattcttgc ggaagattgt gaccaacctg gaataccagc gttggtagaa 240  
 gcgctttgtg cggaacaagg tgtcaacttg gtaaaggtag cggagcgaaa acaactagga 300  
 gaatgggctg gcttgtgcaa gattgatcaa gaaggaaatg ccaccaaagt agtagcttgt 360  
 tcttgtgtgg tagttaggga ctttggagaa c 391

<210> 3027  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-E10  
 <400> 3027

agcaaaaaac ataaaatatg tcttttcttt tagaactttt aaaagaaatt cgctggagag 60  
 gactttgggg aacttttcaa gcagccaaaa tgaatagact gggtagaatg aagtactttg 120  
 tcggcgaaga cgagtttcac aaccgatact ttcaaaaagt aaacgatgtt atgttgaagg 180  
 atcgttgggt ggaatatgct tctaaggaat tcaactctga tccttattcg ttacctctg 240  
 agtggtagta gaatacttgt ctttcgttta ctttttctta ttttctaggc atgcctggct 300

gcacatatt atagatgagc caccacaaa agtaggtttc cagagaccaa agtatcaagc 360  
acagatcgtc gcaaaccgta caggcacaac agt 393

<210> 3028  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-059-Q1-E1-E11  
  
<400> 3028

agcaaagctc ttccttatat tctttgtgct tggacaatgg ttgcaaagac tgctctgagt 60  
tgctcttttc tctctttcct tatcgctgcc gcagttgcag ccgacgtagt ttcagaggag 120  
agatggggat atgctcagca aacccaacaa cagcaacagt gccacaagt atgtaaacag 180  
tatgcatact atcagagtcc agtctgcact tccgtaacca cacagagccc atactggacc 240  
caatgctcga agactgtgca aacctttgtc ccaagccagt gcagtactta tacccaatct 300  
cctacatgga cctattgcag cacctacacc accactagcg taccatctca atggaacaag 360  
ggccttgact acctatactc aaacctgctg tgcttatgcc caacanactt cctatgcagt 420  
cag 423

<210> 3029  
<211> 419  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-059-Q1-E1-E2  
  
<400> 3029

ctcgaccaac ccttcagcaa aatatattacc ccggaaacat aataaatatg gggctgataa 60  
tgtaaaaaag gctccttaac aacatgatgt ttgacatggg catcgatatt cagaacatgt 120  
atgtaaagtt catttttgac gagaatcaca agcaaaagaa aggcgagttt gtgcaagagg 180  
tgaaagggaa gcttgatttg gtggagaagt ttatgaagcg tcaagggaaa ccttatttgg 240  
caagcagtga acctacgttt gccgattatc tcatgtttga ggttttggac gtgatcaaga 300  
gacaacagga agatattttg aaagatttcc cgttgttgca aggtttctat gaaaagatgg 360

gtagccgtcc gaacattggt gcgtatcgta aatccgaccg tttctatgag aaacctgtt 419

<210> 3030

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-E3

<400> 3030

aggtcattatt gaagggttttc ataatatcc attggatcaa cttgcttcca gagtgacaga 60

agtaagtaag ataagatatg aatttgtatt aaagttttga gatgattaga ttcaacaaca 120

agtcaaccaa ggaaagcgca<sup>7</sup> ttttggtgat atgtcgtcgt ggcaatgcgt ctcaacaagc 180

agttgcctta ctgtccagtt ggaatatcca tcctgtatac gacatttttg gtggtataga 240

agaatggcgg aaacaatgtg atccttcact tccttattat tagatgataa cagcatactt 300

tcctttatttg gatgccacaa gtttctcgac gatggaaaca catcgatgac aaagttgtgg 360

atgtgtttca ttttgtaaga cagtcgtgga aaagttccaa catcgaatgc 410

<210> 3031

<211> 279

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-E6

<400> 3031

cgactcaagc gtcacgcca cgcgtccgcc cagcgtccg aaattgagaa gacattggaa 60

tgggcgcgaa acaataagat tcttgccaac tagagtcgat gcaaccatta ggaaagattg 120

tgtaagaata ataccagcga acaacggagt aaataatgtt tgatgagaga agtgaaaggg 180

aagcttgatt tgggtggagaa gtttatcaaa cggccgggga caccttaggt tccaagcatt 240

gataccaggt atgccgatta acacatcttc gaagttttc 279

<210> 3032

<211> 357

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-E9



<400> 3032

acgcgtcaga taaaaccacc gaaagtgata tacctgttga ggactccatt atttcagacc 60  
tggctgaaaa gacacttatg tgttgtattg aattattgcc tgaaaatgag attcgcgaga 120  
aaactttatg tttgaaaaca attgcaagtt cgttggacgt tttatcaatc aactctaaga 180  
aattgttgcc agttattcct tctaatttga atgcagtaaa taaggagtgtg acgacttgga 240  
acgtgagcgt cagctctgaa caccggaaaa gctcaatcaa cgacgatgga cgacgggact 300  
cgcttgtcct tagttgtcgc caatcagaag aagaatcgct ttctaacaaa caatacg 357

<210> 3033

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-F1

<400> 3033

agacaataca gaagttgtgc ctgttgcaga tgtcggagaa gttccaagtg tcgtgtttca 60  
ttttacccaaa atcgcgaaacc tggaaaacgt gaatgcagga gaattctgtg atgtacttgg 120  
aatagtgaag gatgtttcgg agttgtcttc tgttgtttct agaactactg gcagtaccct 180  
gggtcaaaaga acagttgttt taatggacga taccttgaag tcaattcgac ttactttgtg 240  
gaaagataat gcagaaaaat tactcacctc tgctgaaggt aatcctgttt tgctctgtaa 300  
aggagttcga cgcgggagact ttaatggaat ctcatggat gccactactc agtcctgttt 360  
tgaagtaaac cctgatatta aagaggcaca tgagttgcgt ggggtggtg 408

<210> 3034

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-F2

<400> 3034

ccggctcgac cacgcgtcag cccacgcgtc cgctgacggg tactgtaccc aagaaacagg 60  
tgagagaaagc agaaagccaa aagatagaga ttgcgaacga gtagagcacc ttgagtttgt 120  
ttgttgtgta tagataaaca ttgaggttgt gtttttattt ttgtaaaaaa aaaaaaaaaa 180

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300  
 aaaaaaaaaa aggggggggcc ccccaaaggg ttcaaactta attaacgggt aaaggaaatt 360  
 taaaaccctt caaaaatggc ccccaaattc aatttcccg cccctttttt aaa 413

<210> 3035  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-F3  
 <400> 3035

agagaaattt ctacgcatac tttaaatagc catgtggatg tcggtgtatc gtgacaagat 60  
 cgtggattga tcaacaacca acgagagcaa gcgagctact atttggcgtg tcatcatgag 120  
 cgagttgggt cgacctgggc gtttctttga tagcagtttt ggagacttgt tttcatgggc 180  
 aaccgaccct ttttatcgag atatctgggc tatcacacca cgtagttttg aagggtcaaac 240  
 atgggtgcct aggatagacc ttgtagagaa agacgactgt ttcttgggtga aagcggaagt 300  
 acctggagta ccaagggaaa agatcaatgt agatttgaaa ggtgatattc taacgataac 360  
 tggggagaag gaagacgaga aaaagtcgga tgaagaacgg ga 402

<210> 3036  
 <211> 269  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-F5  
 <400> 3036

agcccacgag tccgcggacg cgtgggagcg gcggcaaaag gaacaaatgg ttgttttctg 60  
 tctctttctc actctcgata tatgtatata tatatatata tgtatgtata tatatattat 120  
 gcactgttgt catagtgtct gtgtaaaagc aacctattct ttatcgagac aacaacagca 180  
 gtgaccattc tcaactgaata aacttgttta ccaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaaaaaa aaagaaaaaa aaacaaaaaa 269

<210> 3037

<211> 407  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-F7

<400> 3037

agcccacgcy tccggcaaaa ctgccctggg ataatgtttt gagactattt gaggcaattc 60  
gtcttttgat ttgaaagggg tggaaagaaa tagagcctaa aaagtttccg ttgtctcttt 120  
gaaactgttg aagagatttc tttgtcctat atatgcagtt gtaagagttg gaggtatttg 180  
aaccaaactc gagagacttc gaggagactc ctttttacat agtgatcact agcacgcacg 240  
caagtaattc tcccaaaata gggcagttgt taaaaacgat atcgaagaaa ttcaaactcg 300  
atcgtcaacg aaactaagat cagggagctg aaatcgtgaa tggtgacgat ccagaggaga 360  
cttgttggaa ctgttaaaac aaagtttagc tatcatgcaa cttttca 407

<210> 3038  
<211> 353  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-F9

<400> 3038

agacaacttg gccaaagacg gttgtcaaag tggcgggtgg ggtttgagtg gcatagtgtc 60  
tcgcgttcag gttcacacgg caatggaagc gctttaaacg tataccgacg ttaggtgaaa 120  
acaagtcaac taagagatgg ggtgcttctc aagtaaagac ttccaaagca acggaaagaa 180  
aaagtacggt gtggtattga taggcttgga tggagccgga gcaaccacta tattgtactt 240  
tttaaagctt ggaaagcaaa tgatgacaat gccaaccttg ggatgtaata cggaaactgt 300  
gcagtacgga gatagcgaac tgggtgatatg ggatattgga ggactcgaca aag 353

<210> 3039  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G1

<400> 3039

gaccacgcg tcagcccacg cgtccgccc cgcgtccgcc cagcgtccg atttgagaac 60  
 gagattgact cgttggaaga gaaaccttgg cgggaaaaag gtgccgaact aagtgattat 120  
 ttcaactatg ggtttacgga agatacttgg agagaatatt gtagaagaca acaaatgatg 180  
 agactttatt ctcaaagtct gatgccatt cgaactttag actctggcgg tcctttccat 240  
 aataaccaac ctcatatta tcatcatcat aataataata tggactcatc cgggtgaacca 300  
 agtcgtaagg taccacgagc gacacaaaac agaagataca atcctccgcc tccttacaaa 360  
 agtaacctga aacttcccaa tgaggcaacc gaagccgtgg actatgcaaa acccaacgaa 420  
 tac 423

<210> 3040  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-059-Q1-E1-G10  
 <400> 3040

ccacgcgtca gcggaacggt gggcggaacg gtgggctctg tgaacgaagg atatagcagt 60  
 ttatggcaac ctgaaattag ggagctcatc agtcgtttca agacagaagt ttccttgaat 120  
 ggaaaagaga gaactttacg gtacattggc tcaatggtag ctgatgttca tcgcacactg 180  
 cttaatggag gaatttttat gtactttgcy catcaacaat ggccaaatgg aaaattaaaa 240  
 ttactttatg aagcttcgcc tttggcattt attatagagc aggctggagg aaaggcgtca 300  
 actggtcttg aaagaatatt ggacattact cctacaagtg ttcacgatcg tattcaagtg 360  
 gtgattgggt cctatgaaga tgtagaattg gttgaacagc tttacanagg accttcaaca 420  
 agtgatccta 430

<210> 3041  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-059-Q1-E1-G11  
 <400> 3041

tacccttca gaagatcaag tacgagtctt gctctgctca atatgaagtt caaaagatca 60

agcagcaaca atgtactatg acagtctctg aacaatacat acagcccgat acttgctaca 120  
 agtatgtccc tgaacaacaa ttggtgcctc atacttgta caagtattat tctgtaccca 180  
 agtttattga aaagtgtat cctcagtatg caacaacgga gaaatgtgta gagtatgagt 240  
 atgttccata tgccacttct acaccttctc catcggtatc tccaagttat actccttcag 300  
 cataacaaac aacttcgggc taataaaaaa gccgaaaact ggatagattt ttgaagtgtc 360  
 tcgtgttcaa agaaaacatg a 381

<210> 3042  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G12

<400> 3042  
 agccaacgcg tccggagaga aaaactatct tgcaagcaaa tgaggaaaat attcccaaatt 60  
 taataaccaa tcctcgtggt gtgaagttca tagtacgtgg ctatttgcatt tatattcgaa 120  
 aagaaggaa cttgtggtat actgcgagtc cagaggacaa caagaagggtg actaaattgg 180  
 atgaaaatcg ttgggtttgc gatgctacag gaaaggagta ttcttattgc aactaccgct 240  
 atattttatc cgttgctata caagatgcga ctgggtcttt gaatgctaatt gcttttgatg 300  
 atgtcgggtc ccgcctaatt ggtcgtccag ccgaagattt agccgctata tatgaacgtg 360  
 acaaagcaga atttgatgca ttaattgatg acgttctttt taagccgttc atctttcgaa 420  
 tac 423

<210> 3043  
 <211> 108  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G2

<400> 3043  
 agggcaaatt caaaaataag ttggcaaaaa aaggtccggg tcccaccccg taccggcaag 60  
 aaacttaccg gctttggcac gtaacttttc caaaggccgg ccccccaa 108

<210> 3044  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G3

<400> 3044

gaccacgcgt caggttaacaa taaaatacaa acaggcaaaa actgcgtctc aggactcaca 60  
agaggcagta tataaggcaa gaaatttcac gggattacgt ttcaaagaac gagtcctcta 120  
aatgtgggca ggaaagtatc tgaagaacag acttgtaagc accgtacctt tgcataatgt 180  
cccaccgagt gatagaagaa gcaaacagga agataaagaa ctatccatcg aaagaccgga 240  
atctaattga tcttatgctg tccaatccaa gtaacgctga accagtatct gtggaacaag 300  
at ttgtgtata catggcataa cgggtgatat gccaaacaaa gctattgata tctggtaagc 360  
ctcgaaagct atataagtag cgt 383

<210> 3045  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G6

<400> 3045

cgaccacacg tcagcccacg cgcccgcaaa tgtggacttg aatttagcga tgtgttttag 60  
tttttccctt gggtctcgac tctgttgggt acgacaactt gagtagcttt ctctcatttt 120  
gtcaaagcag tcttcttggt cttcttgctt ccagtctttt gttcgcgact agcctgcttg 180  
at ttgccttt taaaaaagtt acagagtgat gtatccgccc ctatttggtg tgttcccttg 240  
aaciaagaga taggttggtt aaagcaagat aaggaagcgt ttgatggact tgaagaaatt 300  
ttatatgcgg tgcaccgcca cgaaagcgcc ccaaacgaac gtccttgac aagagagatg 360  
gacggtctta acgccaacag ccgaggactc tttgtatagc aagtgcctgt ggcttt 416

<210> 3046  
<211> 407  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G7

<400> 3046

agcggacgcg tggggcggacg cgtggggcgga cgcgtgggcg gacgcgtggg cggacgcgtg 60  
ggttacattg tgggttgtgg agtaagtgcg cttggcaaca aactaaaaga tggaagaaga 120  
atcatcggag cttatatgtc tgacgtact gtagcgtctc tatttagtgt gaaaatgttg 180  
ttctacctta caatacttgc gttctctatc actattgtgg gtcttatggg taagagttcc 240  
gacggtattht gggttcacag tgttccagcg aaatacgaat aatgggtcaat aaaattcttc 300  
ccttcaagta aaccaccacg gcataacttc ctattgcaag tataatcatgg ctgtagcagc 360  
tattggtttg gttatcagct tcttcgagtt ttggtagca ttctctg 407

<210> 3047

<211> 421

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G8

<400> 3047

tcgaccacac cgtacgtgtc atttcaatga ttgggtctaaa cagaactcga aagaagtgat 60  
ttcttaatac gtatgaattg actcaaaatt tgtctaccga caacttcagg agtataacta 120  
gccataataa ttctctttgc ttctagtaca cggaggcgaa ctgtatctct gtccaaaata 180  
acttgtegca ttctcaacct taaatgagag atggaaggaa cggctaaatg taaccctttg 240  
taaacttcca tctctgcact gtttccagaa taagtttcaa gacgttctac tctaattgga 300  
aaaccgtht tttctccaaa atattccgta tgtccgctcc agttagtagc aatcactggc 360  
agttcgtaat atattgcctc catgataaga cgtgccagc cttccctca tgttgccaaa 420  
a 421

<210> 3048

<211> 357

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-G9

<400> 3048

cacgcgtcag cggacgcgtg ggcggacgcg tggggacatg tcgaacgaca atcagtctga 60

taagagcact ttgaaagaag cggaggagaa gctgcagagt gcagttcata ctggaacaga 120  
gaaagtttct caggtgttga gcgacgtcaa ggaaactgtg acggagaaat acaaggaatg 180  
gacagcacca aaaagtagcc aagaagaagc aaaagaaaaa gcacaagaag cgaaagaaga 240  
ggctaataaa gcttttaatg ctatgaaaga aagtgcgagt gccgcttcag aggctgcatc 300  
agagaaagca gaaaaaatta agcaggagtt gaaggagtga agatacacag tagtttt 357

<210> 3049  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-059-Q1-E1-H1

<400> 3049  
agtcaacatt taataatata attgtaaaca taacagatat aaacggtaat actattgctt 60  
ggctcttctgc tgggtcaagtt ggatttaaag gagctaaaaa agccacacct tttgcagcac 120  
aaaccacggc tgaaaaagca ggtaagcaag caatagaaca tggaatgcgc caaacagaaa 180  
taagaataaa tggtccttgt tctggtagag agactgctat tagagcttta caagcactgg 240  
gtttgaaaat aacaaccatt aaagatataa cacctatacc tcataatggg tgcaggcctc 300  
ctaaaagaag acgtgtttta aagaactaga tataatttat gttattttat tatataatta 360  
tatgaaaaag ttacagattg aatgtctaga atcttttaat canaacccaa caaa 414

<210> 3050  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-H10

<400> 3050  
cccacgcgtc agcccacgcg tccgccacaa ggcgccatca tgagcggaga agggacacaa 60  
ggacaattgt ttcttgggaa tacaaaacaa gtaattgaga atccgaggca gaataacgat 120  
gatcgacca gtgtttatgt caatatgaca gatgacgctg ttagttggct gaagaatact 180  
tttcaaggag ttttgaacc aacaaatcct gttgcttcga acaacagtaa taataataat 240



agcagtggta tggaaactac ccttactgcc aacattgtac agcaaattgt aaagcgactt 300  
gctacgatgg agtcggagct tacagagttg cggcgcaaaa atagcgctct tgaaagagaa 360  
cgagaaattc ttcttatgga gaatgagagt ttacgcaaag tggttgaaga atggaaaaaa 420  
ggtggaagac ctgtatgaa 439

<210> 3051  
<211> 339  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-H11  
<400> 3051

accacgcgtc agccacgcgt ccgtttcgct catcgtgcac aacgtccctg gcaaagtcaa 60  
gtagaacctg cagcagaaga gcagaaacct acctacgacc ccaagtgtta tctgtgcccc 120  
ggaaacagtc gtgcgggtgg gaagcaaac ccgaaatatg acgaaacttt tgtgtttaca 180  
aatgattttg ctgcactgtt accagatata ccctcctttg aacaacaaga tggcgctgat 240  
caagattttg taaaagtaga aggagtcaag ggaacctgta aagttatttg tttttctcct 300  
cgacacgact ggactgtagc tgaaatgtcg gtggactct 339

<210> 3052  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-059-Q1-E1-H12  
<400> 3052

ccacgcgtaa gccaacgcgt ccgcccacgc gtccgttaaa tactaacttg gttgcttagt 60  
aaatttgcac gttatgaaga agctattcaa aaccccagga aggatgttct tttcttaacc 120  
aagacttttc aaagtgagtt tcaccgaaag gccatatggc ttcgagaaga cttttgtggc 180  
actgcagcta tatctcgtga atttatccga tcagactttg aaagatttgc tgttgagta 240  
gatatagatt ctgtagctat agactggtgt ctcaaacaag gtttattgag tcttccgtct 300  
ggtagtgata gacttgagct agtagtagca gactgtagag agtatgagga taaaagatcg 360  
tatgacgtta tttctgccaa caactatagc t 391

<210> 3053  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-059-Q1-E1-H2  
  
 <400> 3053  
  
 agattatgga gaataagact gtaaaagaac taaaattcct tgttgtccaa ccaacaactc 60  
 tctcaaaaaa ctaaacacaa atagccaaat aactggtgaa atatctaccc caccactgg 120  
 ttgtgctacc tttcgaactg gagcaaggaa aggttccgta accaaacata cccacaccca 180  
 cggaactttt agactatact ttttaggata ccaacttaga acaattcgca aaaccatcaa 240  
 gatgaccatc actgaacaac tccagttggt gatggttgca acatagccca cgcgcgtatg 300  
 caccttttgt tcccaatag aagcagcaac tctagctatt gtgcttgctt gagagtcgtc 360  
 cccaaagtgg tcgcttttca ttgaccaatt gtacgaaagt ctccactt 408

<210> 3054  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-059-Q1-E1-H3  
  
 <400> 3054  
  
 agcccacgcg tccgagttag ctcaaatgt tttaaaagac catcgggcat ccattttcac 60  
 atttgtgttt gttgaagagc agcatgatga agagcgctat gaagttcttt gtatttagca 120  
 ttattttggc aaatgttggt cttactattc aagcagcaac ggttttggag actttggagt 180  
 cactgaaata tacagagtat cttgacatgg taaaggctgc aggctggac tcgaagttca 240  
 acgactctgc tgttacatgg actgtttttg cagcaaaca tactggagtc aatgccacct 300  
 tggcaccaaa gcacttggtt atttctaata tcacatctaa tgcgacggag agcaaagaca 360  
 ttgtggaata tactttgtac aaccatactc tttgtcaga tgatat 406

<210> 3055  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-H4

<400> 3055

cgcgtccggt gactttgata gatattcattc attttgtctca tccatccaat agcacaattc 60  
tgttatccga tgctcaatat tctgcattcc gggaacaatt aaaagcgatg ggagtgtcga 120  
ataatttgag ccacatagga gaaaagaaga aagaaaagaa tactcgattt gttgctgttg 180  
gtttgttgca gaactgtaaa gtatttcata cgagaagagg agactgtatg gcaaattttg 240  
agttgagaga tgcgactgca gtttgtctag tcacaatgta tccacgagta tatgctcgag 300  
tatctcatct tttgatggaa aatgaacact ttgcagttcg tttaaagtgt gagtgggaga 360  
ctggaaattc cagtcaattg attgtcaaga acttggctcg act 403

<210> 3056

<211> 353

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-059-Q1-E1-H9

<400> 3056

aggtagaaag aacgtgctgt gaagtgagag aacgtacgag aaagccaagt gagggaaaaga 60  
aggcaagtag agggcggccc gagaaaggag agggcgtaag acgtgataca gagtaggaag 120  
aaaagagaag agagctagaa aggaggtaaa agaagagtaa aaggactaga agaggtagcg 180  
aattcacgag gaaggagcgt gaaggaagga ggaatcccaa gtaatcgagg aagaaaaagc 240  
ttcggtgaaa gcgtaacggt attttgtaca cactgcccgt caagttcttg aagtgtgcta 300  
ggaataagca ggaaagtatt tgaagaagag agtgtaaagc gcgtaccttt tgc 353

<210> 3057

<211> 336

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-A1

<400> 3057

cccacgcgtc cgaggagtggt ttcaggagat gaaagttacc acgcaaggga acaagaaaag 60  
tttttgecta ctgccaacat tgcaagaatt atgaaaaagg cacttccacc aaacgcaaaa 120

atagcaaaag acggcaagga taccgtccag gaatgcgttt cagagtttgt aagttttata 180  
acgtcagaag caagcgacaa gtgtcagcgt gagaaacgaa agactataaa cggtgacgat 240  
attttatggg caatgaacac gctgggtttc gacaactatg tagagcctct taaaatctac 300  
ttggcaagat atagagaagc tatgtctgca gagaag 336

<210> 3058  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-060-Q1-E1-A3  
  
<400> 3058

gatcacgcgt cagtactttg gctggttctg gtgcattccc gataggttga tgtaacaaa 60  
gaagttagct ttggagactc taccagcttc tgttatggaa cttgtggaag acgagtatgt 120  
tgcaatcgcg ttattgctac tttttgagca taacagagga gactcatctt tctttaaatc 180  
atatttggac atattaccct cacacgacga aatcaacccc ttgttttggt ggtcagatga 240  
agatttactg ctgttacaag gcagtccaac tttagctgct tgtcagcaac tgagagaaaa 300  
acttgtgaga gagtatacat atctagagaa ccatattatt ccacaaatc 349

<210> 3059  
<211> 169  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-060-Q1-E1-A4  
  
<400> 3059

cgcgtcaggg caacattgcc atttcctttt ggagggaaaa cacaagacaa caatgtctcg 60  
tcncaagtgt ttctttgata ttgctatcgg tggacaacct gcaggaagga ttgtattcga 120  
gttgttctcc gatgtcgttc ctaaaaccgc ggaaaatttc cgtgccctg 169

<210> 3060  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-060-Q1-E1-A6

<400> 3060

agcccacgcg tccggtgctg ctctttggac ttgccgccta tttctctata cagttgtgtt 60

agcattttca gcaacaataa ttggacttga tggaaggaag gcagataaca tatggaacga 120

tgccctatat tatcatggaa aagtggtgaa cttttgtgca tattcggcctt cgtctgtttt 180

tgaaggtggc gaccatggcg catgtaaata tgtgatggct ttggcttcta tcagcttgat 240

tttagttttc tttcttttgt tggcctcctt tgtcgacgca ttgtatccaa ttcttacaaa 300

gttctggttt gtggagcttg gtatcaacat attccttact atgtgggtgg tggttgggtgc 360

aattgtggtg actgcaaagc g 381

<210> 3061

<211> 372

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-A7

<400> 3061

agcgctacat aaaggagcac caagataata atgacacaag tgaaaacacg tcgaccgaga 60

aaaccacttc cagcaacgat aagatagcac ttgaagttga gaagacagaa tattgggatc 120

aactctacaa aaacaacagg aacaaagagg aaccaaagga accagcatca gaaaatatga 180

aaggaagtgc gtcacaacaa gggtccaagt caaatgttgg ttatcctttg gaagaccac 240

aggcagtcca acaggaagag gagacgccgc aagttgttga cgacaatgag acaaactctc 300

ctcatgcaat tctacttgaa gctagcaaac tgcaagcaaa atatggagat tgtgataatc 360

ttccaaacca ag 372

<210> 3062

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-B11

<400> 3062

ccacgcgtac ggattccctt ggcagcgatg aatcaagttg caaagatttt agagatgccc 60

ccgataagag tctatgagat tgtaacattc tattccatgt tctatcgtga acctataggc 120

aagttcaatg tacaagtttg ctgtacgact ccttgcataa tacgcggtgc gtatgatatt 180  
 cttcgtgcc aacaggacaa gttcaatctt gaacccgggg gaaacagtcc agatatgatg 240  
 tttcatcttg aagaagtgg aatgcttagg gcttgtgtga atgcgccaat gatgcaagtg 300  
 aatgatgact actatgaaga cttgactgtt gaaagcgcca ttcgagtatt ggaaaatctg 360  
 cgtgataaca agcctgtgaa agtcggtcct cagaacggtc gtcac 406

<210> 3063  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-B2  
 <400> 3063

agcccacgcg tccgcggacg cgtgggcaac aagcggcggg ctcaaagggg gacaaaagtg 60  
 gaggcgggct ctccgatgct ctgatgaatg gcaacttttc ctttatctct ttgggataac 120  
 ttctgtcgtt ggactttgtc cgaatatatt actgggggtt atagaatatg acctttcgat 180  
 attttctcca tgcattgaca acatgtgtac ataaatatac caactttgtt tgaaaacatc 240  
 tttatggacc agtaactgtt ggaatgcctc tcccatcaaa agactaggac ttggtccaag 300  
 caatgattgt gggagaaata ttgtttccat tagttgcttg ggcttcagta tagttggtgg 360

<210> 3064  
 <211> 353  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-B3  
 <400> 3064

ggtcgaggca cgcgtcagcc cacacgtccg attcatcgtt tcgtcttggg ttgacaaaga 60  
 agactggaag ttttttcgtt gtggaagaag acatattttg tttgaaccag ttggaaaagt 120  
 atgtttgaca gatattattg atcgactcat tgtgtcgtag ctttcatgct ctctgtggca 180  
 acttttacgt gtacgtaata agaacactcg tcagttttca actttgagtg tggaagagga 240  
 gcagcgcttt gtgaggggaat tttttggcgc tattttgggt ctttcttatt tgccacaaac 300  
 aaaagttgtg tctgtttcgg cagagtttct tcataagctt tcccagtcgc tct 353

<210> 3065  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-B4  
 <400> 3065

aggaggtata cctagtgaag tatggggacg attacgtaca cctgttttag gaattgaaga 60  
 ggctgaagat tccatcgaaa ttgctcgaaa acacgccaaa ttggaccctt ttcttgactc 120  
 ttatgtgaaa tacagatggt gctctctttc cgagttgggc tccgaacgaa agcaatttga 180  
 ctgtgtaact tgtctggaag tagtggaaca tgtggaaaaa cctcagcagt ttctcaactt 240  
 gttggaggca attgttcgac cacaagggtt gctcattatc tccacgatta agcgcacggt 300  
 cacttcttgg ctaactgcga tatgcttggc ggaaaacgta cttgggtgga taacgcgtgg 360  
 aacgcatac 368

<210> 3066  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-B5  
 <400> 3066

agcccacgcg tccgcccacg cgtccgggtc tttcaggctc gcttagaaag tgtttgctc 60  
 caaagagaca aagtttttga acaattggcc aaagttcgag agttgagaag aaatcttggc 120  
 gtcttctttt caaaagcacc ttctcacgta caggtaaaca ttggctgtga cttttatctt 180  
 gacggcgagt tggatgacga aggtctttta cttattgaca tgggaaagaa cgtctttgtg 240  
 gaaatgcaac caaaagaagc tctagagact acaatactga gagaaacttg gctggagagg 300  
 ctcggtgaat attatacgaa aagggtgaaa gattgagtta agctcgttgg attgctctac 360  
 tgact 365

<210> 3067  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-B6

<400> 3067

cccacgcgtc cgccacgcg tccgccacg cgtccgaaag cagttgagca cagcaatata 60  
gatatgtcaa gtggctggaa taactacagt ggaacggaag gtaatgggaa tgctgggtgt 120  
ggtcaaggga agaacaagga taagaagact agtggagaac ttgcaaaaga tagtttaaag 180  
ggtttgggaa tggcagcctt gtcagcgggt aagctggttt atcgcggtgg caagtgggtgt 240  
gtggataagg tggaaggcgc cattgacgac cacaagtcaa aaggaagtaa gagtggccgt 300  
ggtggaaatt cacgttattc tcgttgaaac gtaataacgt ggatagaaac agaacgagac 360  
ggttttttat atttgttgt 379

<210> 3068

<211> 97

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-B7

<400> 3068

agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaagg gcagaagaac 60  
aatagagata taaaattaaa tacacgaaca agggagg 97

<210> 3069

<211> 352

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-B8

<400> 3069

agcgtagaac aatatgttga tacctaaaaa gaaccgaaac gcagtttatt cttttatttt 60  
atcgagtgga gtaattgtgg tgaagaagga cactcatgcc aaaaaaact tgcagcttga 120  
cgttcctaatt cttgaagtta tgaagatatg tcagagtctt acttcgcggg gatattttaa 180  
ggaacagttc agttgggggtt acttttatta tactctgact gacaacggaa tcgattactt 240  
acgtcgatat ttgaatcttc ctgtggaaat agtcccggaa actctaaaga agcctactag 300  
acccccaggt gttcgccctt cgtcgtttcc atcagaaggt caagaaaaga ga 352



<210> 3070  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-C12  
 <400> 3070

agcacacgcg tccgggttat cgtgtggaag atagcgatcat tttattcgat ggagagtgta 60  
 acttgtgtaa cggatctgta aactttgtcc tcgaccacga ccgacaaggc atattcaagt 120  
 ttgcagcgtt acaaagtcct gttggattgg cactgttgaa aaagtatcgc ggaccacag 180  
 acctttcgtc gctgggttctc attgaaaaag gtcgaatgct tctgaaatcc gatgccgtac 240  
 tacgaattgc agagttgttg gacaatcaga cccttcgtat tttggcagtt gcaaccagag 300  
 tgggttttcc gaggtggttg agagattggg tatatacaga aattatatcc aaatatcgac 360  
 gtcaaataatt tggagagacc gatgtttgtc gtctg 395

<210> 3071  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-C6  
 <400> 3071

agaggaacct tgtttgggag atttccagat gatatttatg atggctatac tagtaacgtt 60  
 ccaggaaatc cgtggattct atgtacttta ggaatggcgc aatattatta tgagttggca 120  
 gcagagtggg tgaaacatga aaagattgtc ataggaaagt ggagcaaaga ctttttcaga 180  
 catttgaggg ttatgcctcc tctcctcct cctcctcctc aatcttctat atcaacgacc 240  
 attactggaa aagctatttg tagttatgtt tctgcgctat tagaagaagg agatcgcgta 300  
 ttgaatgcta ttcgaaagca tacagttcct agtggatgtt ttacagagga gattgatcga 360  
 tatactgggtt t 371

<210> 3072  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-C7

<400> 3072

gagccattgg gcgcacaaca ctttgggtgca gtgttgccag tgtcagtaga agaaacataa 60  
caagtccaaa ctttttggac tctactttga tttctatcta gactggcaat gtaaatagaa 120  
ctgagagtgt caagttaccc ctttttgtcg gtagagagta acaatggggg tgcgttacga 180  
agacggcttg tctacgcagt cgtcgacaca agaaaaaag acagaccagg tcagaagacc 240  
gaatgtgact cgataaagag taaacaagcg tagttcttgt aacggagcaa ccgctgattc 300  
ctcttctaca tagccagctg gttgtgtcaa cgtctcctgc gtaggttggc tacggtataa 360  
c 361

<210> 3073

<211> 147

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-C8

<400> 3073

gaaagttttc tacaatatcg atttcgtttg gtaaacaatgt ggtttccttc cacagcactc 60  
gcatgtgaag atagatatat gctgactagg gttcgagcat ttgcatatta gatgaagtcc 120  
tgagcattgg gatgtaagct atacgtt 147

<210> 3074

<211> 159

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-D2

<400> 3074

cccacacgtc cgagaagggtg ttgcacggct gtcgaaagaa cgtgctgtga agtgagagaa 60  
cgtacgagaa agccaagtga ggaaaagaag gcaagtagag ggccggccga gaaaggagaa 120  
ggcgtaagac gtgatacaga gtaggaagaa cagagaaga 159

<210> 3075

<211> 253

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-D6  
 <400> 3075  
 gcaagaagag aagagagcta gaaaggaggt aaaagaagag taaaaggact agaagaggta 60  
 cggaattcac gaggaaggag cgagaggaaa gaggtgtatg atgcaagcaa agaagtgacg 120  
 cagtagatca gagagtaaca catgcaagta cgtaaagcga accggtgaat aaagaggtgt 180  
 gaaagagtgg aagaacatga aagcacagaa gaatgtaaga aatgggttaga gtaaaaacca 240  
 taaaggaagt aaa 253

<210> 3076  
 <211> 387  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-060-Q1-E1-D7  
 <400> 3076  
 agccccacgcg tccggtggct tagaagaggt caaggtggaa ctgcaagaaa ccgtacaata 60  
 tctttagtag catccagaga agtttgaaaa gtttggtatg cagccttcaa aaggtgtctt 120  
 gttctacgga cctccaggat gtggaaagac tttacttgcc aaagcaattg cgaacgaatg 180  
 tcaagccaat ttcatttcta tcaaaggacc tgaactgttg accatgtggt ttggtgagtc 240  
 agagcacaac gttcgtgaag ttttcgacaa ggcacgacaa gctgcgccat gtattctcgt 300  
 cttegatgag ttggactcta ttgcgagatc tcgangatct tctgcangag atgccggtgg 360  
 tgcaggcgac agagttatca atcaaat 387

<210> 3077  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-060-Q1-E1-D8  
 <400> 3077  
 agcgagttga aagagactag tgaagctggt atcttttact tgaaatcttt attggatatt 60

tgtgcacaga ctgaagaaaa cgtcctttca aaagatgac tttgttcggt gaaggaggct 120  
 tctcgtaact ttattgaatc gaaacaaaaa gctcgtttac atagtgaagc taatagaaac 180  
 tgtcataaag tggctgtaac tggagctgg agaagagaag aggctccatc gaaccacagt 240  
 gtgttcgata cagcttacga aagtatagtc agtaatctac gagatgaagc tagcgccgac 300  
 caaagtgaag aattcaagag gcttttaaag tccatagaga catttgaaga aggagaagta 360  
 gtttcctcag ttcttgcaac cgatgagaaa cagtttatnt tgcccccttc acaaaagcta 420  
 c 421

<210> 3078  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-D9  
 <400> 3078

agcacacgcg tccggaaga ggtcgaacca gtcgtgaaac acttgagct gtccgtggaa 60  
 actttcggaa gcaatacacg tcgtttggcc tcttgccttt tctccattct gaggagacta 120  
 tacaaggctc cctctcaagt tgcagattcc ttttggcagt cgccacatca ccaaactact 180  
 tcccccttct cttcatctgc acatggggaa cagtcgtgga gttctataag ttcttctgta 240  
 caggatatgc cgatatctag aaggtttata ggatatatgt tgcaagtaac gactctgttt 300  
 atggccttgc tcattagttg tttccgtata gttggctatt ttctggggaa tatgaaaaca 360  
 gaaacgatat acgttttcaa cagagtgaagt gctc 394

<210> 3079  
 <211> 206  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-E10  
 <400> 3079

tcccggtgc cccacggt acgaatttaa gaattcattc cagaaaactt aacttggaa 60  
 gtgaaattga ctacgaagca gtaatcaatc ctgcaaaaag gtttaattga acaaaattgc 120  
 caaataattg gacaaaggcg ggtttgtttg cccctcctgg aaatagagac aaagtgagac 180

atgaagacat tatgaacgcg aattcc 206

<210> 3080  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-060-Q1-E1-E11  
  
<400> 3080

agaatgtgcg gcttgccaaa tagtagagaa gaaatcgatg aaagtgaaag cgagtaaaag 60  
atgaggtata gagaatggcg gtcctaactg taaggatcca aaggtagcga agtaaataga 120  
cgtttgaaag gcggtccagta tgaaaggaga aacgagtgtg gcactgtcta gtcgtccaac 180  
tcagcgaaac agcaataact gtgaaaatgc agtaaactag cagtaggacg gaaagaaccc 240  
ataattcttg actagatagg tttagagagg aaagaggtgt atgatgcaag caaagaagtg 300  
acgcagtaga tcagagagta acacatgcaa gtaggtaaag cgaacgggtg agtaaagagg 360  
tgtgaaagag tggaagaaca 380

<210> 3081  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-060-Q1-E1-E12  
  
<400> 3081

acggacctaa ctgtagttcg ggtaactgtc tttcgtcagt ctttacgtga acaaagcccc 60  
tctttttgta gaaactaagg ctttacgtca taaaacccat acattagtgt tcttgtggca 120  
cacttgtcca gatttgttga ataataacca aactttgtcg cggtcggcag aaaatgacca 180  
aggcggcagc ttccaccagt gtaaagcaac tggttccaaa aaactcggac gataagaatc 240  
gaccgaataa agtgccttct aatcaaataa ggtctcgttc aactataaac cgtctaagac 300  
tttatcggaa aaaagcatat caatataata agcatggaaa acgtgtatca ggagcangag 360  
attatactag taacatccca cagcctgggtg 390

<210> 3082

<211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-060-Q1-E1-E5  
  
 <400> 3082  
  
 agcggacgcg tgggcgagcg cgtgggcgga cgcgtggggt gactacagaa aagaaagcaa 60  
 tgtgcagcgc ttctcaatca cttgaatggt ggcaattggt aaaggaaaat gtagaccctt 120  
 gcacaccaac agataaacca aggacaagtt ctaaaaagga caagacaacg cttcctaggc 180  
 gaactccatt gtcggatatt acagagttgg tggtaggttc caacaagaaa taccaagata 240  
 atacgcaaca acaaccacaa ccacctacaa gtttttaccg accattgccca ccanaatata 300  
 aagagaaaacg actcttgtct cttcgataag accatggatg aaaatgtgaa ta 352

<210> 3083  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-E7  
  
 <400> 3083  
  
 gtgggttggtg gtggatggga atgttaggaa gcctctgggtc atgggcaact ctatcggctc 60  
 tacctactcg gatgacatca acttgcgaag aagaagaagc agttcaggac agtctatagc 120  
 caccactagg gaatcctttt cccgtaccag caacagttct agaggcagcg cgttggttga 180  
 cccaagaaca atggttccac gaagacaaag aagaaggatt actgctcgaa gaaatgacgc 240  
 agtactcttg tctcttagtc gacttatagt ggaaactggg aggcgcgcgg attgggtaga 300  
 tgtgagcgag tcgtgggatg aaaagaaaagt ggaaaccttg gtggacgccca tgcttttggc 360  
 gccaaagacag caggggcttg acgaaacttg tggaga 396

<210> 3084  
 <211> 275  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-E8  
  
 <400> 3084

gttttcttgg tagcagttgt acattcaaca tcatcaaag ccaaagggag gaaagaaaga 60  
 ttcttcaaag aaagaagcca caagtaaacc tgcagcagca gatgctacaa agacgacaga 120  
 aaagtctggc cccgaagcca agttgaaggg aactgggtgca aagaaacaat aaaaagttga 180  
 ctatgcatgt gcagtcctgt tatgttttgt gagttctggt tgatagtttc cagctattct 240  
 tttggtagtg aataaagaga aaatttttta tattt 275

<210> 3085  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-F10  
 <400> 3085

acgcgtcagc aaacgttatc ttactccagt gattgggtgg tttatgggta ttcttatttt 60  
 gaatgcaatg tttttagggt cattgggtcc actgaatagc tgtgcacgac tcatatttgc 120  
 ttttgcaaga gaggggtctta tatttccaaa gatattcgcg acgggtggata tgaaacaaaa 180  
 tcctatagta tccaccgctg tagttgcttt tcttgctgcc atcgtgtctc tcattgcagg 240  
 tttggcgatg ggaacatata atggctttgt tatgttggtg acaacatcat cgctttctct 300  
 ttatgtgggt catattattg ccaatcttac tttgggtatt ttctatcatc gtcaaaagca 360  
 gctcaactgg a 371

<210> 3086  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-060-Q1-E1-F2  
 <400> 3086

agcccacacg tccgcccacg cgtccgcca cgcgtccgat cgatttgtac gacgactcca 60  
 gcgccagcca aggcaacca caactgtct tgtgtatcgc aacacattcc atcaaaaaca 120  
 aagaattcat tacttgtctt tttatccaat ccaacaactt tccgtctctt ttcttgtct 180  
 atttctctg tatgaatatc ataaggatag caaagaatct catactttcc agaatcgatg 240  
 tagaaaagat gttgcgaatc actcaaccaa gtaagaccat tgctacaaca tattcccgaa 300

aatatttgtc gcgatgttat cttacccaaa gatttcctct tgggtgcttac gcgtttccca 360  
gtgtcatect tgcggtgtcc ttgagaactc ctgaaggaat aaaactttcc tgtgcttc 418

<210> 3087  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-060-Q1-E1-F4

<400> 3087

aagtattgca agctgtcgaa agaacgtgct gtgaagtgag agaacgtacg agaaagccaa 60  
gtgaggaaaa gaaggcaagt agagggcggc ccgagaaagg agagggcgta agacgtgata 120  
cagagtagga agaaaagaga agagagctag aaaggaggta aaagaagagt aaaaggacta 180  
gaagaggtac ggaattcacg aggaaggagc gtgaangaag gaggaatccc aagtaatcga 240  
ggaagaaaaa gcttcggtga aagcgtgaac ggattttgta cacactgccc gtcaagttct 300  
ggaactgtgc taggaataag cangagaagt agaagagagt acgaaaagaa gaaagga 357

<210> 3088  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-F5

<400> 3088

agcgattcca agacggcgca gtaatcttgt tctccacggt agctcgctc gacagaaaaa 60  
gacatgttga gctggctaca aaaaaaccac ttgctagttg caatattaca agtgtcaaga 120  
atgtttactc tttatcgagt cacagtgcgt cttttccctt aatcttcctt tttcgggtgtc 180  
gacgagtgcg tagacatgtc gtcttggtaa cgcaaccctc tattgacact ctaggtttcc 240  
tgtgcagcgt cgaactacct aaaacgcaaa gcagcaaagt cccaaagttt cgactctttt 300  
tgtttctccc actagccata ttgaacaaaa gtgttttgca ccacttgcca cgacaacgaa 360  
tggttcactc tcgtgtgttt tctcttgaca aaactogaag act 403

<210> 3089



<211> 309  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-F6  
  
 <400> 3089  
  
 agatctctcc ttctcaccca actagtagaa gaatatgttg gcgtttactt gtctcccaga 60  
 ctgtcgttgg ttagagactt ctcgattctc cagatgtgcc aaagccaaga ccgtctcggt 120  
 gcgacgtagt tcccagtgtt cacactcttg gaagagtgtt tcgatgaact acagtcccta 180  
 ttcgataact accgacaagt cagaaggaca tattgtcccc ggtacttttt caagatttga 240  
 gtttcctgaa gggccaatca acggtccaaa cgtcctgaac cctaacatac ctgaccttac 300  
 agtgtccaa 309

<210> 3090  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-F7  
  
 <400> 3090  
  
 cccacgcgtc cggtttttgg ttactgaag atgcaaaata acaaagacga tttttcctta 60  
 gcaggctttc tttccacacc aaaagtgtga gcagaagatt ggtcagacac gtatatgggg 120  
 gactttacga gagagggcgt caaggacagc ttccgacacc tatttttgcc aaacaactct 180  
 ccaggccttg acccgttttt gacgaaagaa aactcagtat ttggctcacc tacagaacct 240  
 cagttagtgc ctgagtgggt tccttttcag gacagttctt cggagaccaa cgtaaattgg 300  
 gtcaatttga acagctcccg tgttcaaagt aacgatacga cttgttccgt ttcaag 356

<210> 3091  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-G1  
  
 <400> 3091  
  
 agcccacgcg tccggagaat gcttgaggag gaagacaaat ctgcgtatga agctcgcttt 60

tcacaatata tcaaagctgg ggtcggacct gatgacttgg aggagatgta taaacaagca 120  
cacgagcgta ttcgagcaga tccttccttt gagaagaaac caaagcgtga agtaacgaag 180  
catcgagctt ttcgtcagag aaaactcact aaagaacgtg ctgtgaagtg agagaacgta 240  
cgagaaagcc aagtgaggaa aagaaggcaa gtagagggcg gcccgagaaa ggagagggcg 300  
taagacgtga tacagagtac gaagaaaaga gaagagagct ag 342

<210> 3092  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-G5

<400> 3092

aggatgaatgc agggattcct atgaaggatt tgatcatttc atgttcatct ggatacatgg 60  
agaataccac agtgatggac ttgaataatg tatacacact ggtgaggggt cctcaactta 120  
cgttggccat ctaagcacat tctggaacac tggcattggc tcattgggaa tcgaaagctg 180  
cttttgaaag ttttgagcac ttaattgcag ttgctaaaga gggatgtcta catatattgg 240  
atgtcatcca ttccaatagt gagcaataat ctattgcgac tgattgcttc tcgcgatact 300  
atttcaataa agtgatccta ctcttaatca tcatcatcat gactatcctg tgat 354

<210> 3093  
<211> 350  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-G7

<400> 3093

cgccaatctc gactgtatag cagaagaggc tttcctttta gtgggtatgtc cgttgtagag 60  
tccttatcgg actgaggaag gaatagcgtt tgggcacata taaaggggtt tcgcaagtgt 120  
tagcttgga gtagatttgt aaactggcaa acggaatgat tcaccacttt cttataacct 180  
cttcaagtgg tttggttttg tattccacag agtttacgac tactcttgca caaccacgct 240  
tagttggttc actgctaaca gcacttggtg aattttcaaa gaaaaatgtc tctctgcctg 300  
tttcatatat tgaacttgag aaagtcgccg tggcggtttc tgtcagtgag 350

<210> 3094  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-G8  
  
 <400> 3094  
  
 aggacgtcgt cgactcatgg cacctaagaa gacttcgaaa gtagcacctc ctctgaagc 60  
 tctggttaaa aaagaaaaaa aggagaaaaa gaaagagaaa aaccctcttt tcgaaagcag 120  
 acccaagaac tttggtattg gtggagatgt acaaccaaag agagatgtct ctcgttttgt 180  
 tcgttatccc agatatgttc gtcttcaaag acaacgaaag gttctcatgt cgagactcaa 240  
 ggtgccacct gcgatccacc agtttacgca taccttggat aaaaacgttt ccaaacagct 300  
 attccgcttg ttaatgaaat atagaccaga gtcgagggtg gaaaagagaa agcgcttacg 360

<210> 3095  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-060-Q1-E1-H1  
  
 <400> 3095  
  
 atcggatact ctaacctoga tggtttatca ettcgactcg gtatgctgct ctggatactc 60  
 gttgatgaat attgtaaact atttcctggg aattttgtat tcaaattctg tgctcgctca 120  
 tccttgtttt cttgaacagg tcgagaactt gtaacggttc cataagaaat ggaatccaac 180  
 ttgctcatga aattgtcttt ccatttctcg ctcgtagaat tttcagtact tgccaaagaa 240  
 gcctttgtct cggaaactga atgctccttt cctgatacat tttcaaataa aacctcttcc 300  
 ttcttggaag taatcgggtg ttctaataat gtattcaaag atgtattcca tgcgtagaa 360  
 gactgctttt caacaaaaga ca 382

<210> 3096  
 <211> 206  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-H10

<400> 3096

ccacgcgtac gaaagaaatc cgaaaggagt agaagaaaag agagagaaga aagaaaagaa 60  
gagaaaagcc gtactgaaga ccgacacagg tactcgagga gaaagatatt aggtggagtg 120  
tcctaggtga cgtggaagga attgttgttt tgattttgtt tgtgtgtatt caatgtataa 180  
gcaagcaata aatagttttt tcctac 206

<210> 3097

<211> 325

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-H3

<400> 3097

cgcgtcagct caaacgtccg gttgggcctt ctggtggaga tgccctggat tgagctacgt 60  
agtggcaact ccgctgtctt gagagacata actgcaagta ctgaaaaccc tgacataaag 120  
gggagaacga cgacgaatct cagtacctgt ctgaattctg cacaaggaaa tgttacgggt 180  
gacttgtccc tgcagtgtac cttgacggat aaattttcat tgaagcttct cgacaatcac 240  
tttaaattgg cgtgttttac tgataccttg tttttagttt taccatgctt atcctttgtt 300  
attactggta atcgtatagt ctgta 325

<210> 3098

<211> 377

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-060-Q1-E1-H4

<400> 3098

tcacctgagt ttgtatgaaa aatgacggaa agcgacaagt cagtgtttgt tgtcctctca 60  
ggtccatctg gagctgggaa aagtagtatc atacaaaagc tgaacaaaga ttaccctgat 120  
cgaataggat ttagcgtaag tcacacaaca agaccaccgc gaccggngga acaaaacgga 180  
gtagaatact attttgtttc cgaggaaaaa tttaaaaaaa tgatagagaa tagtgaattt 240  
atagaatatg cgaatgttca tggaaattat tacggaacac gttttcaagc agtagagagt 300

gtttctcaata gangaaggct gtgtgtgctg gacgtagacg ttcaaggatg ccgttccatt 360  
cgtcggagaa acatgaa 377

<210> 3099  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-060-Q1-E1-H5

<400> 3099

cccacgcgtc cgatcgacga tgacatttct caccaaaaaa gatgtggaac attgtttcga 60  
tgtgatatgg tttagcatat ttgatatcca atattcttgt ttatgttctt tgaatgcctt 120  
gaaccagatg tgtcgaacct acagcgtgct tgtgccggct ggcgatgact ttgaatttcc 180  
aaactctcct tgcttaagtg actgggatct cgttcatttt gtttcccata gcaacgaacc 240  
tgtatttcgt gtatttcaca agtgcacat gtgctgcttt ttagaacana gaatagttgt 300  
ctttcgggat ggccctttgta tactgaaaaa ttccaacagc tggttgttgt tggatgcttt 360  
gcgtgatatc acaaaacatg aaaaggacaa agaaaaccgc ttct 404

<210> 3100  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-060-Q1-E1-H6

<400> 3100

aggagaaaagt caaccagatg aaaacagaac gtggctttgc tcttacggat atattgcgtg 60  
aaatacataa aagaatattg acaaggaata tggcagtcgc agcgaagaca tatttattgg 120  
agaaatttgc tgaaatagaa catcatcttg cttttggctg ttctgaaaaa ctccagcttt 180  
gttctttgat tgggtgctttt caaatcatga aggcgttgga agtggttgat gctcaagttg 240  
gaagttagta ttccatgtaa gaacattata ctagatggac gaaggattca tctatataaa 300  
tattgcaaaa ggacacaaag caatctcttt gtgctcgaga aacatatata tacatacttc 360  
ctgtgta 367

<210> 3101  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-H7  
  
 <400> 3101  
  
 gacactatct gccatggttg gtgagttcat cgcattgttt acatctgcaa gatgtccttg 60  
 ttgtcatttt tggcgtttgt ctgactttcc aacattggac actttgcaag acgtgtgctg 120  
 tcatttacca gcctccttgc gatatagttt acgtcaggta tcataaacag gcataacacc 180  
 tgatattgcg taccaactcc acgtctcccc atgaatctgg tcccagcgtt ttagatgcct 240  
 cagtcacaat agtcatagcc atagactcga cgttgctatg tacaaggctg gttttccaag 300  
 gaacttgagt catgtgtccc ataattagat ctggtcacac tcgactcgct tg 352

<210> 3102  
 <211> 140  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-H8  
  
 <400> 3102  
  
 cgatccacgc gtcagctcac gcgtccgccc acgcgtccgc ccacgcgtcc gaaataaata 60  
 gaaaaaattc aatggaaatc atataaagaa aaaaaaaga gggtaaaaaa ttcaaagggt 120  
 taaagggttt gatgcagtaa 140

<210> 3103  
 <211> 129  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-060-Q1-E1-H9  
  
 <400> 3103  
  
 ccacgcgttc cggaaatagg acagctcaat agcagattgg ataaggagtt aatgatgagt 60  
 atacagttat gatacttaac ggtagtgtat acgaaatatg gatgtattaa ccgagtatat 120  
 taaggaaat 129

<210> 3104  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-061-Q1-E1-A1

<400> 3104

```

aggaaagaat gagtaagaaa aaagggagtc attccaccag gggagtaaag gcgcaagaaa   60
gaaacccaaa gcaattgacg ggaatcggaa aaaggggtgg atcacgtgga ttaggccgat   120
aaaccgagaa ccttacctct ccaagaaggt gttgcacggc tgtcgaaaga acgtgctgtg   180
aagtgagaga acgtacgaga aagccaagtg aggaaaagaa ggcaagtaga gggcggccccg   240
agaaaggaga gggcgtaaga cgtgatacag agtacgaaga aaagagaaga gagctagaaa   300
ggaggtaaaa gaagagtaaa aggactagaa gaggtaccga attcaccacg aangancgtg   360
aaggaaggag gaatcccagg taatcgagga agaaaaagct tcggtgaaag cgtgaacgga   420
tt                                                                    422
  
```

<210> 3105  
 <211> 338  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-061-Q1-E1-A10

<400> 3105

```

aatgtccggc tcgaccaca cgtacgcca cgcgtccgct tccttatatt ctttgtgctt   60
ggacaatggt tgcaaagact gctctgagtt gcctctttct ctctttcctt atcgctgccg   120
cagttgcagc cgacgtggtt tcacatgaga gatggggata tgctcagcan acccaacaac   180
agcaacagtg ccaacaagta tgtaaacagt atgcatacta tcagagtcca gtctgcactt   240
ccgtaaccac acagagccca tactggaacc aatgctcgaa gactgtgcaa accttttgtc   300
ccaagccagt gcagtactta tacccaatct cctacatg                                                                    338
  
```

<210> 3106  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-A2

<400> 3106

acggtcggtg atctccaaca accgcagcca tcatgaaaat acttttattc gactcgggtc 60  
ttcttctcca gtaactcagt tgcaaataaa gaaaagtgga ataagaccgt cgtgtggaga 120  
acggatggcc tcaaacaagt tgtggctttc ctgaactaga caaggcttta ggaggtggta 180  
ttcccataag ctccctgttt atattgttgg aagacgaacc taccactatc taccagtaag 240  
tattgccctt ctgctgcaat gtattccaat aaaatatatc aagatctagt ttagatgtaa 300  
aaatgaaaaa gaacagtaag aagagaaata caggtcacga attcatgacg aaagcacctt 360  
gaaggaagga agaatcccaa cttgcccagg aataaaa 397

<210> 3107

<211> 428

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-A3

<400> 3107

atccaggcgt caggggggtcg gaagagaagg cagaacgtca ggaccggaaa cgcttgctta 60  
atagagtttc ggccaagaga gttaaagaac gtttggaaga agagtgcaga aatttgggag 120  
acggggggtc aagagacgag aatctcctta aagacctgga ggaggagaaa aagtcactgt 180  
tgccgtacat tcagagactc gaggaagact tgcggtgcct aggagagggga gctttttctt 240  
tgttgagaga tgaagcacat tagaaacacg tagaggtggg agagttggaa ttgttcgggt 300  
tccatgtaat ccgtaagagc gttctggaaa aggtgtcttc tgaagaatag atacctacga 360  
aacctgtata ggtcgtccac aacggaactt cgggttcaaa agaataaata gtatttttat 420  
tgtaaaaa 428

<210> 3108

<211> 421

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-A5

<400> 3108



ttccccggctc aacgcacgcc tcagcccacg cgtccggcac aacagtagca actattcgaa 60  
 aacaacagta tgttcagaag aagaatatgt agatatattg aacaaagtta tcgtcgatag 120  
 cgactgggggt gaccttccaa aattgagaag gaaactagct tcgttggagg aaagggaaaca 180  
 accaacaacc acgccaagggt agacaagagg acaaacaggt gactgggtca ctcaaagcgt 240  
 gccatcgaca tggagtactc cacaaagtgt gaatagtaac tatagaacag tggatgacaa 300  
 aacggaaaaa gtatctaaag ggaacaaccg gcctttggaa aatttttttc ggaaatatta 360  
 caccgaaaaa caactattcc tttgaggtgt tggtgaagaca ggaagaaaaa gataagagaa 420  
 g 421

<210> 3109  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-A7  
 <400> 3109

cccacgcgta cgcggacgcg tgggcttata ttctttgtgc ttggacaatg gttgcaaaga 60  
 ctgctctgag ttgcctcttt ctctctttcc ttatcgctgc cgcagttgca gccgaggtag 120  
 ttgtcagagg agagatgggg atatgctcag caaacccaac aacagcaaca gtgccaacaa 180  
 gtatgtaaac agtatgcata ctatcagagt ccagtctgca cttccgtaac cacacagagc 240  
 ccatactgga cccaatgctc gaagactgtg caaacctttg tcccaagcca gtgcagtact 300  
 tataccaat ctctacatg gacctattgc agcacctaca ccaccactag cgtaccatct 360  
 caatgcagca aaggcgggta ctacttatac tcaaacctgc tgtgcttatg cccaac 416

<210> 3110  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-A9  
 <400> 3110

cggctcgacc cacacgtacg aaatgactct gtatgggtcta cttctacagc ttctcaagct 60  
 ctgagtgtctc ttccaaccag tgcaccaact ggagcctcat ctagtagcag tagtagtgca 120

gtatgggtcc ggagacgtgt cattcttggt gcaacattca atcagtcgat atccctttca 180  
 tcgctttcca ctggatccca taattttaca tcattagtagt gattgaattt gaccatcacc 240  
 aagaattcgt caggtagcatt ttaggtcct ttccgagtgg taaaacctga tgcgctggt 300  
 ggctcatcct ttatcgatgt gattgatgga gttcttggtc caccaccacc aacttccgcc 360  
 acaagtgtc caactgctgt aacttctgct cccatcacta cagtt 405

<210> 3111  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-B1  
 <400> 3111

tccaggcgtc aggcttgagg tgtggcttgg ttttagctg cgtggtaact tgttagctc 60  
 ttaggtaac aataatgcag atattcgtaa agactcttac tgggaagacc attacgcttg 120  
 aggtggagcc ctgagatact attgagaatg tcaagtcgaa gatacaagac aaggaaggta 180  
 ttccccaga ccagcaacgt ttgatttttg caggtaaaca gttggaagat ggtcgactc 240  
 tctcagacta caacattcaa aaggagtcta ctctccactt ggtcttacgt ctgaggggtg 300  
 gaatgcaaat attcgtgaag actcttactg ggaagaccat tactcttgaa gtggagccct 360  
 cagacactaa tgaaaatgtc aagtccaaga tacaggacaa ggaaggtatt ccccagacc 420  
 aaca 424

<210> 3112  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-B2  
 <400> 3112

ggagggcacc gatttgtgtc tccacactta cctgtttatt gttgctttat tttgatcctt 60  
 tcaactgaaga agacttcaact ttacgtcaat gtctttctgt ttttttcctt gggttcgag 120  
 tttcttttct cgacaacgtt ttggttatag agaagtgtt ctttagtgct atcaacacta 180  
 ttttgatgc acctccttcc aagtcgctta gtgaggcttc tgtcgttcaa gttgcagagt 240

atcttctcta cttgacaaac gcttctatct cctatcatag aaataaagag tccagcgatg 300  
 tttatgaaca ggtgggttcat gttcatgaga gaatttggtg ccgtcttcct catgctatta 360  
 tagacgatcc ggatggaaaa aagtcgagag agttttaaag attctgaact tcc 413

<210> 3113  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-B3  
 <400> 3113

caggcgtaag cgtttattag aagacttgcc tcttccaaaa ctggcactta atggcgctgg 60  
 cgggtccaaca gcaactgaac ttgcacgttt gcttggaag ggtggcacta tgggtggctta 120  
 ggcaaagtgcg tccgggaaac catttagtat tcttactact ctatttaca cacaagatat 180  
 ttcactgaaa ggattctcga tgcttaattg gttaaagtcc aagtcagagc aagatgtgaa 240  
 gaaaatgttg caaagtgtca cacaatgat ggaaaatgac cagttgaagt tttggatcga 300  
 aaggaaaaag ttggaacaac tcgaaacaac attagaagcg ttaaccaca aagaaacctt 360  
 cacaggaaag atcactatct ttagttacca aaaagggaga gatgtacttg agtggtcgtt 420  
 gaa 423

<210> 3114  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-C1  
 <400> 3114

tcagggccaa aaagttggga gtgaaaataa ttgcaaggat tctaggcttt ggtgatgctg 60  
 agcgtcccc agaggagttt actgttgac catcgttagc gattcccaag gctttgagac 120  
 atggcggcaa tatcgatata gaagatgtgg atttgttcga gatcaacgag gctttttctg 180  
 tggttgcctt ggcaaatatg aagatattgg gtttgatcc atccaaagtg aatgtgtttg 240  
 gaggtgcagt agcattaggt catccacttg gctgcagtgg tgctcgaata gttgtaactt 300  
 tattaaatgc actaaaacat cgccaaggaa agatcggagt ttccgccatt tgtaaccgaa 360



<211> 362  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-C3

<400> 3117

gaattcccta ctcgaccag gcgtacgggc aaataaggga aagcagtaaa agaagaaaga 60  
gaaaggaaaa aactgagtat caggaagaaa agacggagta gatgaggaaa gaaagatcaa 120  
ggaagtaaga gtaggagagg gagtaatgtg aatgaaagca ggaaagtatt tgaagaagag 180  
agtgtaaagc gcgtaccttt tgcataatgt cccagcgagt gaaagaggaa gcacaaagaa 240  
agaaaaagaa gtagccaggt aagacccgaa gctagttgat cctatgctgt ccaagcgaag 300  
taaggctgaa ccagtatctg tggaaaaaga tttggaagag atggcataaa gggttaaaag 360  
cc 362

<210> 3118  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-D1

<400> 3118

ctgttctgat ggtttaatat ctgtagacct tgccaaggac cttttgactg cacataagaa 60  
ctcggttgct gttattgtct caacagagaa tataacgcag aactgggtata gtggacatga 120  
gcgttctatg ttggttacca atacgttggt tcgtatgggt ggtgctgcaa tattactaag 180  
taatcgttcg aaggatagaa aacttggaag gtatcgttta aatcatacgg ttcgaactca 240  
tttcggagcc gatgacaatg cttaccgtag catatatcaa gaagaagata gtgaaggagt 300  
gaaagggtgt cgactgtcca agtccattat gtatattgct ggtcaagctc tgaaacacaa 360  
cataactact ttgggacctc ttgttttgcc ttttccgaa catattcga 409

<210> 3119  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-D10

<400> 3119

acggcaacgc aattccgaga aagagaaatt gttgaggcac acgagtgtcg ttgctagtgc 60  
tataggatgg tagtttatcg aaagggacta gtaaataatgt tacaaaagtc tttaggagag 120  
tttaaagatg ctgttcgtca ggagaaaatc aaagaggact tttccaaaag cgaatatcac 180  
gttacaaagg gagagaagat tcgtgccaat agacttcaag cacaatatgc aagaaaggca 240  
acgaagactt ggaatatgat caatacgtg ttggaaagac agtcgagagg attctaattg 300  
gatatttgta tgtggaggag cttaaggaaa a 331

<210> 3120

<211> 366

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-D2

<400> 3120

aattccaagg tcgatttgac atacccaaga gagagagagt agcagcatga gtgaggaaga 60  
agaaccttgt gacaatgaga atatattagc ttcattgtat caacagttga aaactttaca 120  
attcccagct gtacttgggg cactagagac aacaccacgt ggaaaacacg ttgcacaagc 180  
cactatacca gagtcgtcgt cgtcagtgac cacccaagaa aatatgacgc ccaagttgca 240  
agcaatagct attgcactga aaaaccaact tgtgcgcact acagaacaaa tggaatattg 300  
gaaacaaatg tatgaaactt gtgaagaaca acgtagagaa tggaaagcac aatgggaaga 360  
aaaact 366

<210> 3121

<211> 421

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-E1

<400> 3121

agggatcatg taaattaatc cgattttaaac cgagaacctt acctctccaa gaaggtgttg 60  
cacggctgtc gaaagaacgt gctgtgaagt gagagaacgt acgagaaagc caggtgagga 120  
agagaaggca agtagagggc ggcccagagaa aggagagggc gtaagacgtg atacagagta 180

ggaagaaaag agaagagagc tagaaaggag gtaaaagaag agtaaaagga ctagaagagg 240  
 tacggaattc acgaggaagg agcgtgaagg aaggaggaat cccaagtaat cgaggaagaa 300  
 aaagcttcgg tgaaagcgtg aacggatttt gtacacactg ccccgtaag tcttggaagt 360  
 gtgctaagaa taagcagcag cggtaaaacg tgtgtagcaa gcgtagagca gaagaactgg 420  
 g 421

<210> 3122  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-E2  
 <400> 3122

agcgcacgca tccggatttg tatgaaaaca gttgtgtagt gtactaaaac taagtatttc 60  
 ctgtacttat tcttaacttt ccaaagcaca gtggatcttt ggtagcaatc aaggtcaata 120  
 gtctgctaaa tttcaaagtt gctttcctga agcggcatat cactctatac cagtatttcg 180  
 atggttattg gatcgtcttt tgtccgttaa cttgaatttc tgtggagttg cttgttgctt 240  
 gaatgataat ccaacattgc ctccaagcga atgaaatcct ttgtgtatcg tccgggaaca 300  
 ttccgcattg cgtgtgcttt aacgaacctc gattcagcaa atacttctcg gtccgttcaa 360  
 ggacatgaca tctgtcacgt attaatcaca taatgtcata tacttgtcct gtttactca 419

<210> 3123  
 <211> 308  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-061-Q1-E1-E3  
 <400> 3123

gaattcccta ctcgaccgc tcgtcagccc acgcaaccgc gcatgtttta gtgttgatc 60  
 ggaagctgtt ttcgatactg taaacaactc tctttcgaag tggaatggcg cgctgaatta 120  
 tgtggatgga agacgcaggg aaatcggact aagtgttttg gaaaagggcc agatgggaaa 180  
 gtgcacgtac tcccatcaag tttctcccaa ctttgagtt gctgctgacc ttcgtttgag 240  
 tcgatctgga tattagcgtc taggcggcat gggtaacaaa ctacctgatt gatgagtcca 300

taatcctc

308

<210> 3124  
<211> 321  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-061-Q1-E1-F1  
  
<400> 3124

agcggacaca tgggctgacg cgtgggtgaa ttcctacgag tgtgtacaga gaagaagcag 60  
tacttccttg ttctatgaca actgtctctt ggcattgctgc acattgaaat acggcgaagc 120  
gggtttatgt cttgaagtac caactaatac attggaattt ttgcaagttg ttcattctga 180  
atccactatg acgcaaccca ctaggaaaga tagacgatga atcttctaaa taaattaaaa 240  
gcaacttttt gttttcaaaa cataaaagaa tagcataacc caactaataa aagaatgaaa 300  
aaacttacgt aaaaacgtga a 321

<210> 3125  
<211> 422  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-061-Q1-E1-F2  
  
<400> 3125

aggtcattta ctcaacgttg aacaaaaaat agaaatatat tctcagatga cgttggaatc 60  
atggcttgga aagtgagaac agtctctgaa tatcacctgt gcagcctgaa agtggatgtg 120  
ggtagaacac catgaatgag aaggcagggt ccggaaggaa tgttgactta agctagttgt 180  
gagtgaata ggaaagctac aggagtatcg gcagcagtat tttcatgcca ttttctctaaa 240  
ggtttctctg caatacttct aaaacagcaa attgagcgcg tacgatcttc tgcattgaatg 300  
gcaatgcgac tcgggtggaa aggattggaa tgaagcccat aagagtgagc gcaagaaaca 360  
ttatttcaat tttttcagat catgcacaaa aatgatccat ttgtatttct cctgaaaat 420  
ta 422

<210> 3126  
<211> 421  
<212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-G2

<400> 3126

aggctcgagaa ttgcctcgtc gaatgagagc tctttgctg gttggtttct tatcgtcggc 60  
agagtctgggt tatctgcact ataataaatc gcgtgtgccc tttaaaagcc agtgttcacg 120  
agattttctct aaatactgta ttaagggcag aaaaggccct tcaaacgaga agaaaattaa 180  
gtattagcct tttcttggga cttggcttga aacaaaacac gtgttcagca ctccatctgg 240  
tacagggtgac aaatgccacc ttcagtgacc tggatatcag cagtgtagcg ggaaacgagg 300  
aaccgcgata tagacaaact ttgaaaatt taaggattgg tcaagtattt gaagggaaca 360  
gtggaaaagt tgatgccata cggggctttt gtgaatatag gaccgaatct ttccggactg 420  
c 421

<210> 3127

<211> 391

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-H10

<400> 3127

cgacccaaac gaccggtgag aagaagagta ggatcggcaa agaattgtacg aaagaaggaa 60  
aagatcatgt aagagaatga aaagagcaag agtaggaagt gtaacgttgt acaaaggaga 120  
aaggaactca ataggatcaa taatgaacag gataggagta atactagtga taataataat 180  
gttaatagga gaaatatgta gaagagaaga aatacagtta acagtaagag aagagataaa 240  
gataataatg ctgttgggaa taataaacca tatagcaatg tggatagtaa agaatgttg 300  
ggagtatatg aagtaatagg aggaatagca gtaataagtg gaataggagt aataatgagt 360  
aagaaagggg tagaatcagt agtgtatatg a 391

<210> 3128

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-H2

<400> 3128

actcagacaa ccaatggatt ttctcttga cgagatgaac atcttgccaa gtaacccttg 60

acttacaac caaacctgtt ttgctattgg gagaaacttt tcgacactgc gtaggaccgg 120

ggattccttt gtagcgtgtc ttccactcgg caagctagtg ccttgaatat ttcgacaagg 180

cgctgtgcaa tattctgggt ttcatcacgt ggcgtgtagt caagaaatac aagaactgct 240

tcagtacgac caaatataga aaagggtata cctagagctg agtaaatacc aaaagtttgt 300

gccagtgggtg ctccggaggaa aataggattc gagggaagat ggttcaacca aagaggcgtg 360

ttgttcacgt agactgttcc tggtaaaccg tgactgggat cgaattcata tttctgacta 420

ga 422

<210> 3129

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-061-Q1-E1-H3

<400> 3129

agcccacgcg accgggggtgc gcagagaaag gatggctgcg gacgaagacg agtttgttct 60

caagtgttta gaaatacgtc ccgacgccag ttgttctttt cgcactagga ataggggaac 120

gggtatttcc gaagccaacc aaagtacttt atggcctgggt ttgtcgagaa agaatcgtat 180

gcacaggaaa ttaaacttta cagacctgaa agtggttgac cctgctttca aaaggggacc 240

aactcttaga atcttaagaa atgttattat tttgtcgggt tttgatttaa gggcgcttgt 300

atttcatgaa aaggatcaaa tttttgacct ggaaaacctt caatgttccc aagtttcaga 360

gcagcttaca acaagtctgc agtcagctcc aaagtctggc agcaatttta tttttgaa 418

<210> 3130

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-062-Q1-E1-A3

<400> 3130

cacgcgtcca gacttagtgg cattcaacga acgatgaagt tccagtacgt gagtctttta 60

ttggctctct tatgcgtagg ttctgctctg gctgctgaat tggcacctgg aattgcggaa 120  
 aaaccggtag agagaggata tgaggaaccc tgctgtaccg aatattgtta ttgggaagaa 180  
 atatgtatca caccacacac cacacctaca ccaacctact attactatta ttacgcaaga 240  
 aatgcataac aggaaaatgt cgatagaagc gtagaaaaga gtatctcttc cgcagaaaaa 300  
 totgatgcgg ttcgagggta tttccccacg tactactatt atgagactcc tacatattat 360  
 tactattatg agactccatc cccaaccccg acaccaacgc ct 402

<210> 3131  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-A6  
 <400> 3131

acggacgcgt gggctgcata tctctgatgg ataatatata tatatagtcg atggaaatgt 60  
 gatattggaa gataggaatc catccaccaa gcatcatctt attgcatcgt gtgagaattg 120  
 gaatgatgca ataagagaac agtctgttta tcgagttggg aaacgaatga aacaaatagc 180  
 agcagaaaat gaaatatctt aaatggaaac ggaagcaacc gttggattat ttcatgcgat 240  
 ggagttgcat cttgtggaca ttatccaagc aactcgacaa caacaacaac taggaggagg 300  
 aacaagaagt agcaatatat atcgaccatg gaccaataga ttgactattc gtgacctttt 360  
 tcgtttgacg gaatatgctc aagatatatt gggagataa 399

<210> 3132  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-B1  
 <400> 3132

cgggccggcc cacgcgtcca gagatatcgc tgtattgggtg gtgtgtgtgt gccaaaggaa 60  
 gacgggatga ttgatccaaa ttagcactag gtggcaatag gcgtcggtgg ctgtgcattc 120  
 tatgatataa tagctgccta tgtgacattt gaaggatact ggccaccaga ggaatgaagg 180  
 cgcataaaac aatttgccgc aaatgcgggg aagcagcaac gaggagttaa aactccgtgt 240

gtttgtccat aacgaaaacc atcttgctggg tttttgttc atcaacgctg tcaaaaagaa 300  
 ccttctgtga agtgagagaa ctttagagga ttccaactta ggtaaacaatg gcaactacat 360  
 g 361

<210> 3133  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-B10  
 <400> 3133

cggacgcgtg gggttgggat gtctcgcat tcagtgatcc aagtggcaca agagaacgcg 60  
 ggtgacttgt tagaaagtcc tttttggaat actttaacca attcactgtt ttatgtagat 120  
 atcgatggaa agagaatcca tcagtatgaa ttggaaacag agactcactc cagttggaaa 180  
 acgagtcaaa gagttgggtt catctgtcct gtttctaca gtcctcaagt ggaaacagtt 240  
 ttgggtggta tggaagatgg tctttattgg atcaagttgt ctagcaataa taatagtagt 300  
 aacaatactt gtgtcgaaca acaaatatgg agccacggga tggacaccaa tatagttcgt 360  
 ttcaacgatg gaaagtgcga ttcgagtggga cgactttttg ccggactaat ggattatcag 420  
 tggg 424

<210> 3134  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-B11  
 <400> 3134

cccacgcgtc cgaaaacaag ttgcctgagt gaaaagtgag aaacttgtgt gtatccgtga 60  
 catcaacatt gttcaacgtg acagacagat gaaacaaaag tacattatgt agctagttac 120  
 ctatgtgcaa tcagcttatg atagcaactt tcttagagct ttgcacgttt gttaacgaaa 180  
 caagcaagta gctcaacgtt gaacatatca attttcaaag ataaattggg aaacaaacgt 240  
 gcactaaaaa accacacatg gtttttactc taaagttaca agtaacattc actcctgtct 300  
 ttcaggctgg tgtgtcggaa gctgaggagc tgcaggagct gccatgggtg gtggataaac 360

tacagcactc ccagtgtagt atgcaggagt aaaagtttcg tattgagtga acaaaggatt 420  
gaaaccccc 430

<210> 3135  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-062-Q1-E1-B12  
  
<400> 3135

aatcaggttc gacgaagcag agcaaggatc gcaaaactat caaagagctg aaagccgagg 60  
ccttgagac taaaaaagc ggcttgaata cacgctccga aaccgtggcg cacgacgaag 120  
taacaactct ctctctgca atatctcaag tgagaattga cggagccaaa agtagtggca 180  
agtgtgctgc agagaaagaa aactgcaaca acgtcattcc tggcgacaac aaacagacaa 240  
ggtcacaagc aatcggaacc cgcaatcttc gaagtagaac aattcccaag cccaattaaa 300  
gtagttgttt tatatttcgc tgatatgcct ttgtttctca aaacatattg aaagcttttg 360  
aatgtgttaa agagactgat t 381

<210> 3136  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-062-Q1-E1-B2  
  
<400> 3136

cggacattta gtgtgtttgt tgcgattgaa agagagagag caaaaagtat tggagtgttg 60  
taaaatgtca agttttctaa ctcgagcagc cttgtcattg cgtgggtgga tacaacaac 120  
acaaaaccag tggaccaaca atggagtagc aaggagactt tatcacgaaa aagtagtcga 180  
ccattatgaa aaccaagga atgtaggttc tctagataaa aacgacaaat atgtgggcaa 240  
cgattttctt ggttggaaga agatatgttg tctgcaacga nggtgttata caaagctgct 300  
acagaaagag tagtgactat ggtgggatta aaacaggaac caaatgcaa agagattcta 360  
gaaaagt 367

<210> 3137  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-B3  
  
 <400> 3137  
  
 aggttcggtg gaaatgagca acgaaagacc tgtttatgac gatatggcat ttcttactta 60  
 tggcgtagga attagacgcc aaagtatctt ttatggcaac tcacttacca gacaagtttg 120  
 tacggataaa aagcaagttt ttcaaaacgt tcttggaat ataagggcaa gcaccacaga 180  
 agttccgaag aaactctcaa aggttgaaaa ttacaagaaa aactcgagtc acttgaagtt 240  
 tcccctgcag caggatttgg aggatgataa catttttgtg tcggaagagt cggttcaaat 300  
 aatcaaattt cacggttcct atcaacaaga caatagagag caaaggaaga aaggggaaca 360  
 gaaaaagtac caatttatgt tgctccaaa gt 392

<210> 3138  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-C12  
  
 <400> 3138  
  
 accacgcgtc cgagacatca gaaacgggtt atattcaacg aaggttaatg aaagcaatgg 60  
 aagatattat ggtcaattat gatcatcagg ttcgagattc tggaggtcat gctgtacagt 120  
 ttctttacgg agaagatgga atggatggtg ctattataga gcgcaaatt attcattcta 180  
 tgcgaaatgag tgatagagaa ctggagattg cctatcgatt ggatcccttc gatgcaaagt 240  
 ttggatttgc accaaatggg aggcgatatt tagatataga tgttttggag gccgttcata 300  
 atgattctga gcttgccgtc ctgttaaadc aggaatttga agctatcaaa gaagatagag 360  
 atttattgag acattccata tttcctagaa cagacgataa tcgtgtagca ttaccggtga 420  
 atattg 426

<210> 3139  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-062-Q1-E1-C3

<400> 3139

agaagaggag ttatgagaga aaagatggaa gtaatagaag tggtaagtgg agtaataatg 60  
aatcatatga aagaaggaat ggagaatata aggaaggatt acatgaagga ggagataata 120  
ggagaaatga taagggtgat atatatatcg ataataagtg tgatagtaat ataaaggagg 180  
agaaagagag gaaagaggtg tatgatgcag gcaaagaagt gacgcagtag atcagagagt 240  
aacacatgca agtaggtaaa gcgaacgggt gagtaaagag gtgtgaaaga gtggaagaac 300  
atgaaagcac agaagaatgt aagaaatggt tagagtaaac agaaaaggaa gtaaaaggag 360  
ggaatgaagg gaagttatgg caaaaacacg tgccagcagc 400

<210> 3140

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-062-Q1-E1-C6

<400> 3140

accacgcgt ccgcgactgg aatgctcaac ttgcacaaca acaggacaga agtgaatgcc 60  
gtggaggctt tgttgtgggg aaatatgtgt ctctatttct tcaatatatt cttggtgttc 120  
tttatctatt gggtttgtga aactggtggt tggattccta ctgttgcaga ctatcgcgta 180  
ttgacttcat tggaaaagga ccaactggga aaggaagctc agttgcatca ggatagtgcc 240  
taagaagaag caatgttggt tggttgttga tgtgttggtg gtggattgtg tacatatata 300  
gagagagtgt gtgtgagaga aaatgctttg tgagtgacca ctctcaaaa ggcagtgtga 360  
acaaatcctc acanagcana agaggaaaat aaaagctct 399

<210> 3141

<211> 235

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-062-Q1-E1-C7

<400> 3141

agacagaaga aagtgtgacg agtttggaga tatctgacta tgagtgggaa gtattgagta 60  
 gttttagacc tagtaaggca ttgcgagaaa gacttttgca aaatatttct caaaggcggt 120  
 ggagagacga agcgttacgc cttgttcacg actccaaaca cttgacgatg ttatggagta 180  
 acgtagtttg acgcaagtgt ttatttaatc ataaagtctt ttcgaccttt catac 235

<210> 3142  
 <211> 346  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-C9  
 <400> 3142

acccacgcgt ccgcccacgc gtccggcgat ttgtagttat gtttctgcgc tattagaaga 60  
 aggagatcgc gtattgaatg ctattcgaaa gcatacagtt cctagtggta tgtttacaga 120  
 ggagattgat cgatatactg gtttcgagca aggagctatc aatttaactt ggagttatga 180  
 tgcctttgtt actgcggttt ggtcgaggga agatgttcac aagttgtttt ctaaataattg 240  
 tgaacctcct tctccatcgc tacctagtat gccaggacct ggtggtttat cttctccata 300  
 ataagaggca cttgtgcact ttggatattt ttgtggttca cattaa 346

<210> 3143  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-D1  
 <400> 3143

cgcgtccagg tatgaaaaag ttgttaaagt atccaagtag aaacaaatag gctgggaaaa 60  
 tactactgag ttgacagcaa ctctatttta tgtcttttta ctccaactct tttctttcgt 120  
 cgctagacac ggttgaagag tctagttggg gactgaagat agtaagtata tttcagaatc 180  
 cgagctccta gtgtctaata ttatatttag gcaaggctctg cttcctcggg tcctttttcg 240  
 atcgaggaag tgtctggtac tggtaaata ctcgtcggga agcagaagac gggggaatat 300  
 ttaagccaaa gtctgaatcc ggaaagattt agaggagact caacaagaac aactcgatgc 360  
 tcaaattacg actttgtttg ggaagaagcc ttgggttagg ggccttcct t 411



<210> 3144  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-D10  
  
 <400> 3144  
  
 aggtagaaaa ggaaccccaa caatatgact ggaacccta tatcgagttg tgtgaaatga 60  
 tgaaatcagc gaatctaaaa cttcaaactg tacttagttt tcatcgttgt ggtggaaatg 120  
 tgggtgatca gtgttatatt ccattgccaa agtggatatt tgcagttgca gaaaacaact 180  
 ctgatatctt tttcaaggat agagatggca atgccgatga cgaatatctt agttggggta 240  
 tcgatgaaga acccgtcttg atgggaagga cagctgtcca agtataccgc gatttctttg 300  
 tttcttttgc ggaaactttt cgacaatatt ttggaaatgt tattagtcaa gtacagatag 360  
 gtctaagtcc agctggggaa atgccttata ctagttatca gttggccaaa tggacatttt 420  
 gtgga 425

<210> 3145  
 <211> 179  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-D2  
  
 <400> 3145  
  
 acccacggt cgcgtttcaa atattctttt gcaaaaaaac gaattgccac aattagtcgc 60  
 aaaccaatat cctatggcgy tttataaaaa agagcgcaag gttcggactt gttctccaag 120  
 taggggaaaa ttctgtgttg ttttagagac atctattata aaactgtcta taccgacct 179

<210> 3146  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-D6  
  
 <400> 3146  
  
 agggcgtaga taagcacggt ttgaataact gggaagctat tgcagaagat cctgaactgg 60

gatttccggc aactctagaa aaacttgctc agaagaaaca aaatgaatct ggctctgtca 120  
 acgagaaaga tttcaagttc cccaaagcaa aggtctgtca aaaacgattc aacttgttac 180  
 tagacctgtt tgtatcaagc ctggaatctt ttgaggatta taatgcagtg caacaatcct 240  
 cttcctcggt ggtgattgac gcgttacagt ttaatcgaga tatactgaag gaacaacctc 300  
 tggatcatggt tggagatcct cgtggagttg tagaaatacc agagaactca gaaactggag 360  
 agttacgtct tccgtttgat gtgggatgtg gactagttat tctcagtttg ggtc 414

<210> 3147  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-D8  
 <400> 3147

agggcattggc gaaaggtaga ctacaggatc gtcttgagaa gcttctgcct tataatcaga 60  
 cctggtattt ttatataacc aagatagtat tttacgtatg cacttttatt ttctctgtcg 120  
 tcattgctgc tctggtcagt aacgcaaagt ttaatatata tgataaatcc ccaccgaata 180  
 ttcatggaga cttttgtgca tacaaggcgt cactagctga gccagctggc gtgactgcca 240  
 tttgcaagta cctcatagca gtaggtgctc ttggccttgt gtttgctata gggttcgttg 300  
 cattctctct atggaccctt ttggcacatc gagtgattga tttatgggtg gtggaagcct 360  
 tgttgaatac cttttggatg gtctggtggt ttatagcagc tggagttgct a 411

<210> 3148  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-D9  
 <400> 3148

cggacgcgtg ggcggacgcg tgggcgtaga gtcaagtgtg gatattccca ggtctctagt 60  
 tactccttcc tttgaaatgt tgaaaagact ctgtttccgc tggtagaac caagccatcg 120  
 cttctatcga tttataggaa ctgtctatct acaggatgct gctatcatcc ctataacctga 180  
 gctagaaaga gacgaagagt ttagacaatt caagaaccag attttggttt ctaaggacag 240

agatgaaaag acaaaagaaa gactcagaat aagacaggaa gtacttcaag agttagaaga 300  
acaagggatg attcgaagga agaaaccaa gaactcttca tatgaccca aaaatggaat 360  
ttatatggag agatacttga caacagtacg tgaagttgct gaggagtatc tgtttggaat 420  
agacaacaga 430

<210> 3149  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-062-Q1-E1-E10  
<400> 3149

atagcgcgat aactttgaat ataagcttcc aaataactcg ggaagaatgc catcactcgg 60  
acaactgtag atatacgacc cgtaaataga aagttatcgg taaatagacg caaagtaact 120  
gaattagcgt tttgtacggg tggttaactga tcgttgggta taaaacgaga gaaaataggt 180  
cttcgtaaac gttgatattc ctttaccata gaatagactg gggaaatggac aggtaacgta 240  
gtttctgctc tctctaataa gcgtgaaaaa gcttcacgaa catccgaaaa gggaacttcg 300  
gaagcaaact tagtaatggg agctatatga gctacaaata gttgtccttg atcagaacct 360  
tgtaacgagt tttccaattg ccaaagtatt ctgtccagtg cttgtttcct tgcagcttca 420  
tcctaagtca 430

<210> 3150  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-062-Q1-E1-E11  
<400> 3150

aggaagaaga cgtgggggaaa cgctaggcaa gtggccgcct aagtgactgc gcttcttttc 60  
aatcctttca aatattgagc ttggaccatc gaaatcctcg gtatatTTTT gaataaaaaa 120  
cgagaactaa tatggaaaaa tatcgaagag ttgagcgagc caaaagtccg ggccagactc 180  
cgccgaatca agtacgaata actgcggcgg gcaaagtgcc agcctatgtg gactatgcag 240  
tcaagttgct tcaagaggat aatggcaccg tggaaatcgt cgggctgggt aatgccatca 300

ataaggctat cactgtagca gaaatattga agcgaaaagt cnccaagttg gagcaagtaa 360  
 caaatcttag ttcggtgact attgaagacc gctgggaacc attggaagaa ggcttggacc 420  
 ctattgaaac ga 432

<210> 3151  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-E2  
 <400> 3151

cccacgcgtc cgagagcggc gaacgacgtc gattgtgcgg tggcttgatc ggttccttcc 60  
 ctaatattcg acaacgagca tggaagaaac tgctggtgct agtgcagctt ccgcaagtgg 120  
 tgcgcctaag agaagaactt ttcgcaagtt ttcgtaccgc ggagtagagt tggatcaact 180  
 attggacttg aacatggaac aactaaagga gttgttcaac tgtagaatcc gaagaaagtt 240  
 gaatcgcgga atgggtatca aatacaaaac actggtgaaa aagttgcgaa aggcaaaaaa 300  
 ggaagcccg gaacacgaga aacctgaagc tgtgaagacc cacctccgag atatgattgt 360  
 tctgccagaa atgattggaa gtgtcgtcgg agtttacaac gggaaaact 409

<210> 3152  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-E3  
 <400> 3152

agggattttc tgatgaaaag gaacgcattt ggatgtttca taccacggaa cctgaaattc 60  
 gtcataaacc ttacgacgaa gaaattcctt gtgttagtag agaatacaag gaaatatcca 120  
 attcatttca tccttccgaa gacgattgga tatttgcaa tgatgcacta ctttatggtg 180  
 atttaggaga agaatggcca tcgaatagtc catggttggga atggaatcgt ccaccacaac 240  
 aacaacttga ttcggtatat ccaagaaaag atagtcacaa ggaggatatt ggagaagaag 300  
 ttttttcggt ggatagttta tggaatcatt ttcatgataa tgaatggcaa ctagacttgt 360  
 tatcttcttc ggagagtaat aatagtaatg attggtttat taagacac 408

<210> 3153  
 <211> 335  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-E5  
 <400> 3153  
 tgtcattata gacaattcgc cttctgcata tgttctacat gaggagaatg cgattcctat 60  
 tggaacatgg tgggatgac cattagatga agaactctta aatttgcttc ctttcttaca 120  
 ggccttatgt gtcttggtg atgttcgtc tattcttagt cttcgtgaaa caaaaggagt 180  
 tttattgcac aatttagtat ctagtggacc ctatcattca tcatgaggaa aattctatgt 240  
 tagatggcaa ttgaataatt gtttgcttga tcgttgtctc tgcttctatc tagtagtctt 300  
 tataataaac catcttacat acagttgagt cccat 335

<210> 3154  
 <211> 312  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-E6  
 <400> 3154  
 aggaaaaagc ccagaagcca agataaggta tcaaagtaaa gaaagaagga aaaggagaag 60  
 aagagaggggt aggcttagaa gcagcaaacc agagaggaaa gcgttaaagc atgaaagaaa 120  
 agaaatccga aaaagaagag aaaaaggtaa gaaagaggac cgaatcaggg taagaggtag 180  
 aggagcaaga agagaagaga gaatgctggg tggagtagcg aaacaagaga agggaagtaa 240  
 aaggtaaaga agaggaaagg ttacgagag aaggaagtag aaagaagaga gtgtaaggcg 300  
 gcgtcataat ag 312

<210> 3155  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-E8  
 <400> 3155

aggggatctc tctttttttt gtggggagag gtgattggcg actctgtcga ggaagcaagg 60  
 cttgggaata gaactatata ttcacatcat tttccatcat ctttctagaa attattgaag 120  
 aagaatagtt gtgagaatat gagtcattat tgtggtgtgg tgggtatttg tttccaatcg 180  
 tgtccttgtc ctgctagtct atggagagtt ggaacaagaa gaaaaagatt gcgttgcggt 240  
 tttttatgtg taaataatag gaacaattat gcgagtgcg cttcttcac ctcacacatt 300  
 aggagagagt gtctcatcat aggactaggt aatccaggaa ccgagttgag caatactcgt 360  
 cacaacttgg gctttcaagt attggattat tatgcaaata gatattcttt ca 412

<210> 3156  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-F11  
 <400> 3156

aggaaccacc gcgtcattcc ttgttggtga tccttggtg gtttccacct catatcgact 60  
 agttcgtact acaacagttt ctttcaagcg tggattatcg caagcagtga aaagcgatca 120  
 agctacttct gcttcagaag cgctcaagt ttctagtggg ggttcctcct tacatcccca 180  
 ggaaataccc aaagatgctg tcaagttttc attgaaacct tttgctactc acctcatcga 240  
 agctccagaa cccgttgctt atgctacgaa agaacagtta ctggcatatc atcgacgat 300  
 gacagttatg aggaggtctg agatcagtg tgatttaatg tataaagcac agttgggttcg 360  
 aggtttttgt catttgtacg atggccaaga agcaacagct gtaggcattg aatcagcgat 420  
 ta 422

<210> 3157  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-F12  
 <400> 3157

actcgagtgg tgggaaaacg ttcgacgcga gattgtcgtg agaaacagaa aggaaccttt 60  
 tttcacaacc agtaaatagt tacatggata caacatcggt catatattat agcaactttt 120

cctgtgtgtac acgacacccc aactttatatt ctgtcgctaa gcaactaccg aaagcacgaa 180  
aactgagaac agtaaagtcc aaccagttgg tacagctatc ctgcgtgttg aaatcgaacc 240  
cttttttcca aaaactatct ctaatgaaaa cactagaaga cagtttggag aaaatgtgga 300  
gaaatagcaa ggcctcgtcg gagaaaaggt cgatggagta catacagtggt tcagcgtgta 360  
aagcagtata tccagtagag gcaaatatgt ttggggaaaa cgggagatat gtgcgttgta 420  
tagtttgtgg aa 432

<210> 3158  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-062-Q1-E1-F2

<400> 3158  
agcaacaaca ggacggaagt aaacgcagtg gaagccttgc tttgggcca catgtgcttg 60  
tactcettca atatcttctt ggcctttttg atatactggg ttggtgaaac cgggtggctgg 120  
attcctaccg ttgcagacta tcgcgtgttg acttctgtgg agaaggatca aactttgtcc 180  
aaaggagcgg agatgcatca agaagagtct gcataaagga ctatttttgt atagttgcca 240  
tcatggacgg tttgtgtgga aagttgtgat tgtgtagaga gtgtgtttgt gagttgtgtg 300  
tggtattgtt gttttacgtc tttgtgagtg accactcgta cgagtgtgat gaatcctcac 360  
aaagatgata gaagacaata aaacgatgtt gttttggtat 400

<210> 3159  
<211> 354  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-062-Q1-E1-F3

<400> 3159  
acaccgtttt ttgtgggttt cactcgtgtg ttttgtcttg ttaaaactcg aagactatatt 60  
atttcttgtt atgttttaga ggtgtttcta gactcttttt ggagttgtca tactccagtc 120  
ttcgtgggtt atgaatggct ctagtggcaa agagtacttt tactttccca ccattctcca 180  
cagctccaac catcaacttt tatacgcacc ttgtatatatt gtgcccctag tagctaacta 240

attccgcttg aagagattgc aagtttggtg tactaaacaa gaggtgcaag tgtcagtata 300  
agagagtatg tatgtgtgtg tagtgtgttt ttgggagtag gagtacaccc aagt 354

<210> 3160  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-062-Q1-E1-F4  
<400> 3160

aggagtaatt tgttgaagag agggccaaga tgggtgcactc tatggaagta aagaagaata 60  
agtttataga acagtgggct gcctatagag aaaactctga atattttatac aaatggacac 120  
caaagcgtgt aataggaatc ggtcttcttg tgggcgtgat tccgtattac ttgtatcgct 180  
acattgtgta cagtgtggaa aatcagtacc caaactatgg agctgcagag tatgggtttac 240  
tgggaggttc tcctccaaag tactcgagtc aagatgatga aaataagtaa cttgacaacg 300  
tcaccaacga cctaaagttg ctctgttggc gtatttatatg aaaactttat aaacaagttt 360  
atTTTTTTTc taaaaaaaa aaaaaagaa 389

<210> 3161  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-062-Q1-E1-F5  
<400> 3161

atgtttcgtt gtggaaaata aaatttttgt gttgaacata aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa caaaaattaa aaaaacaaaa aaaaaaaaaa 120  
aaaaaaaaaa ccaaaaaaaaa aaaaacaaaa acaaaaaaaaa aaaaaaaaaa aaaaacaaaa 180  
aaaaaaaaaa gaaaaaaaaa agggggggcc ccccaaaagg tttccacctc aacttcccct 240  
tcccggcaac ttcaagcccc cccaaaggtg ccccaaaatt ccattcccgg gcccttcttt 300  
ttaaacgttc gaaccgggaa accccgggc gttccccacc taacccctt ggaagcaaac 360  
cccccttccc caagctggcc tattccccaa gggccccccc cctcttcccc 410



<210> 3162  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-F6  
  
 <400> 3162  
  
 agcggacgcg tgggttggga tgccgcagaa aacgatgatg ggatacacct ctcccagca 60  
 agcgtgttg cagttagcat ccatcaagaa aaccaccaa aagttaaaga agcacttgca 120  
 aaaatacttg gatgaaacaa aactaagaa cacagaagat gcagaaccac tggaacgtgc 180  
 aaaggcaaac ctcaatttgg catatatatc ggcgccctt ttctacatgc ttcttcgagt 240  
 tcacggggtg gaaacttcag gacatcctat catggaagaa ctgcaaagaa tcaaggaacg 300  
 ttttcaagtg ctccgaaagt taattggaca agaagatact cgttcactgg ttatagatgg 360  
 tgaggcgacg ggtaggattt tagcagccac tctgaaagat ctctcagcgg acaaaa 416

<210> 3163  
 <211> 134  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-062-Q1-E1-F7  
  
 <400> 3163  
  
 aaagggggag gtactcgccc cgatggagca ttcttaaaag cagtggaaaa agaattcggc 60  
 tcattggacg ctctcatttc ggcctctct gctacagcta tcggcgtgga cggatctgga 120  
 tggggatggc tcgt 134

<210> 3164  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-062-Q1-E1-F9  
  
 <400> 3164  
  
 ccgatattca tctcgaagt gatgatggtt gtggtgagtt taattatcgt atggtttgg 60  
 cgatagcatt cccggaagaa cgttcttctc gacttcgaat gactatctgg gatgtgtctt 120

catctcctac gggttccggt cgagacggta cttttattgc agaattgtcaa gtggacttgg 180  
 agcctttgtt aaaggaagct catctaactg gtcgtatggt atcaagaaag cctcaatggc 240  
 taagggttttc tcatcccaac tatccacaga tgaacgcaca tgccaagctg tctctagatg 300  
 tattggatca acacgatgcc aaattctatc cagttgcaaa aggaagacaa gaacccaatc 360  
 aatatccata tttaacctcg cttttccgtc ncgtattctt aaatcctctg aatcctatgc 420  
 catttgtgt 429

<210> 3165  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-062-Q1-E1-G10

<400> 3165

atctccttgc gaggaatttc ttgcggggcc gaagactcgc tttcttgttt tgtggtgggt 60  
 gtcgcttttt gtctctcaag tttttgccga aaatgggttca acagtggaga gcagcaggtc 120  
 tcacttatct tcgttatgca aatatatgtg cagattttgt tcgcaaggca ctaaaggaac 180  
 cgaaaagaac tgaagcattg tcgaggaccg gttttgagat gacgagaagc gagtggagtg 240  
 aaggcaaggt tgtgaagaga ggtaagtcca cgaacanaac tactagaacg gtgatttgat 300  
 ggagacacct gcagagacct ttacacaaga gaatgaaact agtaacgtcg ccaagagtaa 360  
 caagtgaatg tgtttgttgt aataaacgtc tagaagaacg cgtacgtgtc a 411

<210> 3166  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-062-Q1-E1-G12

<400> 3166

cccacgcgtc cgcccacgcg tccgcccacg cgtccgccca cgcgtccggg agaagaagag 60  
 agggtagact tagaagcagc aaaccagaga ggaaagcgtt aaagcatgaa agaaaagaaa 120  
 tccgaaaaag aagagaaaaa ggtaagaaag aagaccgaat cagggttaaga ggtagaagaa 180  
 caagaagaga agagagaatg ctgggtggag ttacgaaaca agagaaggga agtaaaaagg 240

tacgaaagag ggaaagggtta cgacagaacg aagtacacag aacacagtgt aacgcggcgt 300  
cataatagaa atccgaaaag agtagaagaa aagagagaga agacagaaaa gaagagaaaa 360  
gccgtactga agaccgacac aggtactcga ggagaaagga gac 403

<210> 3167  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-062-Q1-E1-G2  
  
<400> 3167

acgcgtccac ccacgcgtcc gggcggacgt ttttttcgtg aagcaaaca caacaacaac 60  
aacaactatc ggtcgcgcaa tgcttacagt gaaaccccat cacaacttgt tgaaatgggt 120  
atTTTTcaac atccctgcga gaacgaacta gtttgtaaga gtaccaacga aaagatcccg 180  
ttttttaacg ctccaatatt tctggaaaac aagacgcaga ttggcaaagt ggaggaaata 240  
tttggtccta ttacagacgt tcactttact gtaaaaccag tggaacgtgt attagccact 300  
tcttttggtg taggagacaa attctacatc ggctcagaga aactgctgcc gcttgacaga 360  
tttcttccca agccacctgg tagtcagagc ggagacaagc cgc 403

<210> 3168  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-062-Q1-E1-G5  
  
<400> 3168

accacagagt caatggacac attatgtgac gactcggtag tatcgggcag cacaccttat 60  
catgtcctac tagacacatt actctacagt catacacatg tcgagtgtgt gctgtatctt 120  
tgggggggcg ctcaactcag gaagaccgct gtctccagta atgaatgggt tccatcagtt 180  
agacctcatc acgaagacac tatgaactcc ttcagcacac gcatttgcca catgtaacga 240  
actcccggac gtactcacta tttgcagtct cttcctagaa gagcaccaaa acctctcttc 300  
ggaaatattc gctgggtgcc gatccccgtt gctctggcgt t 341

<210> 3169  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-062-Q1-E1-G7

<400> 3169  
 cccacgcgtc cgcttgcttc tggatcagag agcgcttcct taccgggctg tgcaattgat 60  
 gagaaacgag tcgtgtcttc cacgggagct ttatccctta gtcaagttcc taagaggatg 120  
 atcgttattg gaggtggcta tattggctctt gaaatgggtt ccgtttggag gagacttggt 180  
 tcagagggtca ctgttttggg atatcttgat cacatagttc ctatgcttga tcgcgaagtt 240  
 gcagatcagc tctacaaatc tcttcaaaaa caaatctaa agtttaagct cggcacaaaa 300  
 gttgttggag tggatagcag tggtagcacc ctcaagttga cagcagagcc atcganaggt 360  
 ggaaaacaag aagtcctcga gtgtgatgtt gttcttgttg ctaca 405

<210> 3170  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-062-Q1-E1-G9

<400> 3170  
 aagaacttgt agaagaaaag agagagaaga aagaaaagaa gagaaaagcc gtactgaaga 60  
 ccgacacagg tactcgagga gaaaggagac ccaaattaag gtgagagaat ggacgataag 120  
 gaactaggca aaaggatatg gtatctgcgg tagaacatat gaaagaagca gcaccgactg 180  
 tttagcaaaa acacagcact ctgcagaaaa gagaaaatgt aaagtataga gtgtgcggcc 240  
 tgccaaatag tagagaagaa atcgatgaaa gtganagcga gtaaaagatg aggtatagaa 300  
 atggcgggtcc taactgtaag gattcaaagg tagcgaagta natagacgtt tganaggcgt 360  
 ccagtatgaa aggagaaacg agtgtagcac tgtctagtcg tcnaactcag cganacagct 420  
 ataactg 427

<210> 3171  
 <211> 394

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-H1  
 <400> 3171  
 ggtgctctga gaagggatgc aatcttttca cttggagagt acgtgtcctc aaaacaagca 60  
 ggagttagaa acatatttcg agcgtctaca aagacatgca caacagcttg aggcgagct 120  
 tgtacgtgtt cgacaagcta tggcccaagt tagtttctat cttcgtgatt ttcgccaggt 180  
 ggaggaagcc aaaagtcgca atgatttttc aaatgtagc gccgtcacag gagagtctgc 240  
 ggaaaatggg tgtctatcaa gaaacacgtc gttctcgtcg tttggctctt ctactgcaag 300  
 gtctgataca acaccacaaa agagtgtcgg cgagaaaagg aggagggta ataagggatc 360  
 gagtggaaga tattggtcta gtgaagaaca tgat 394

<210> 3172  
 <211> 302  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-H10  
 <400> 3172  
 aaactttttc caaatataga gaagttgttg atgcaagggt tgttgatgaa cgtgaaactg 60  
 gtcattcgcg tggtttttgt ttcgtatcct atgcataatg ttcctccgta gacgaatgca 120  
 atgccgcact gaatggcaag gatatgcata gacgcactat tcgtgtgaac aaggcaatgt 180  
 ctcgtgaaca actcgagagt ggaggagact ttcgtcgcgg tggtcgtgga cgatacggaa 240  
 gttttcgttc cggtccttat gagagacgtg aacgtgactc tgatcgtagg atagatcatg 300  
 ac 302

<210> 3173  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-062-Q1-E1-H11  
 <400> 3173  
 atgaattttc aggtgttgga ggtgcgtatt cccaagagtt gggaacagaa cagcacttgg 60

agacataaac gttgtaatag aagcaacaca tataggaatc gctcttttat tcataaatatg 120  
tcagggccttg tttgtcacag agcacttata ttaatagatc acggcagtaa agttccagag 180  
gcaaacgacc aaattgccaa agttgcttct ctagttgcaa agcggccttc aaatactttt 240  
gttacttttg ctcatatgga attagcgaaa cctgatttga tggaggcttt cactctatgc 300  
gttgaaaata atgctaggaa catcactggt tgtccgtttt tcttgtttcc tggaaaacat 360  
tgcactgtag atataccgca gatggctcag aactgtgcta gtaagtttag tagagttact 420  
tgtaatgt 428

<210> 3174  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-062-Q1-E1-H12

<400> 3174  
atttgaggtt tcttttcgcc cgtgcgatgt taagacgggc actctatgaa cttgtaacaa 60  
ggcttatatc ccaaagttct aaagtagcac cttttaattt tgcgtattcg gtagagagga 120  
aattgggaac tttatttcct agttttcacc atactttgtc tgtgcagacg agattttttc 180  
aacagcccaa gagttgctgt ccgagacggt attgttcgtc caactccgga aatgaaagag 240  
gagtcctagt tgattcagac aagtcaagta atccatctgt tggaaaaagt gaaggaatcc 300  
ctatatttgg cagagaagag tcagatcctt ctcaactggg aagagattat attcgacttg 360  
tgtcgctact tgttcgtatg cca 383

<210> 3175  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-062-Q1-E1-H9

<400> 3175  
agcttggaag aagctctggt ggaagatgac cttgatgttg tttgtgactt tcggatcacc 60  
aaactttgta gcacacaagt ctaaagtatt gaataccaga aacaaattac agaggcagtg 120  
tggctgcgtc aacacaaagc gtgataaaag gactcaagta ccaaacactt ggggttatgac 180

tgaaactaca ggagtcaagc ttttgaatgg cgaacagaag atggagatga aggcaacgaa 240  
agaagtcaaa gttggagagc gtgtttcttt ttgcaggtgt tggaagtcag caagcatcc 300  
gtattgtgac ggttcgcaca acaaataata taaggagacc ggagatcatg tgggacctat 360  
tgtagtagca gcagtgcagg ctacagaata gttttattgt gttttatttt caataaaggg 420  
tagcagtttg t 431

<210> 3176  
<211> 355  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-063-Q1-E1-A11  
<400> 3176

gggtcgaggc acgcgtcagc ccaagcgtcc gccacgcgt ccggtgctga gcgagaggca 60  
aggtgttatc atggcaaagg cagtgagaat tgggtgctgaa ggttacaggt taaagttgga 120  
cgggtgcagtt caagagatag acggtcgttc tgtagtcctg gtagatgtgg atagtattac 180  
ccctctcatg tttggaggta gtatgaaaga aaaggccaaa ttgttggtatg ccaagtttct 240  
aaggagagta ttatgaggag aacaaggact tcttcttctt gtcgactaga gaagagaaga 300  
aaatgtttgt gacgttaca cttgccaggg aatatgcaga gctggtagat gacca 355

<210> 3177  
<211> 199  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-063-Q1-E1-A12  
<400> 3177

cgggtcggcc acgcgtcagc ccacgcgtcc ggaacgatgc gcagtaatgt cgcgattgtt 60  
ttctttggtg gacaaggata aagttgctga tataagagaa caacagaaaa gaataacgga 120  
caagttgtct tccaataccg caaaagtgga tgagtgtgtg agggaaactga gccagttgta 180  
tgaggaaacc tgcagtgc 199

<210> 3178  
<211> 167

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-A3  
 <400> 3178  
 gaatcgggtac aatcaatacc tgcagcgatg taagagcatc tttcctgcaa tgtgatatca 60  
 tggaggggtga gaatcccggt tacctctttt ccttgcaagg cagctgcggt accatatttc 120  
 atgttggtgga gtctggttgt ttgggagtag atccgtaa at ttgttgg 167

<210> 3179  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-A5  
 <400> 3179  
 agcgacagga gcactcgaca ttggactgaa ctacgaagaa taagactctt tgtacaaaca 60  
 caagaaaaaa agatcaactg ttaaagctaa ctgcttgctg ttaccaacca ctgcgcgatt 120  
 tgttggtgctt gtttctggaa tatcgaaaat tcttggtctg tgtctacttt ttacttaggt 180  
 gtcaccaacg tgcagcgaaa ctggtaaata gaacacgtgc ccagtcaatc tgtgcaaaca 240  
 ctcttggtgcc aaatacagag ggtctggatg agtcactatc ttctgagaat gttttgaagc 300  
 atcttccctt ggaagagaat gtcgtctcga gttttgtgtg tggaaagaac gtttcagttc 360  
 aaagcaactt atcttcaata 380

<210> 3180  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-A6  
 <400> 3180  
 agcccacgcg tccgcccacg cgtccgcca cgcgtccgcg caagtgattt cggaacaaac 60  
 cattgaagaa aaagaaacaa cgaaaacagc tgttattgca aaagatcttt tggctggaac 120  
 tgcaggagga actgcacaac ttttagtggg acaccggtc gacaccatca aagtaaaact 180  
 acagaatcaa ccttgggtcg ctccaggaca gactccacaa tataccggtg caattgatgc 240



agtaagaaaa acggttgcaa gacaaggcct tgggggtcta taaaaaggaa tgggagctcc 300  
 actggctttc gttgcagttt tcaacgcagt tctgtttgct tctaattggc aaatgaaaag 360  
 aatcgtccac ggtgaaggta acaact 386

<210> 3181  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-A8  
 <400> 3181

agcccacgcg tccgtatttt ctataaatac caacatacat attgtattct gtatgtttgt 60  
 ggttgctttg aattgcttac cttggctacc aaaaacagtt cgttcctatt ctttttttgg 120  
 ttatacacc aactcgaaaa ccaaaccatc gaggaacttg gtgacttggt tgaaaaagga 180  
 gcgccataac aagaataata acactacgaa taataattat cattctcatt gtaaagagtt 240  
 acccaatatt gattccaaaa ctttattgag tctaggactt gatatacata ccaagtctat 300  
 agggtttgcc atagtctctg gatggacagg tcaagcaatt cgtcacggta tgatccaact 360  
 acaacatatg gaaggagccg atgtttttga taaagttgac 400

<210> 3182  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-B1  
 <400> 3182

acgcgtacgt taagagacta ctgaaacacc aaagagaatt cgtattactt tgaccagtaa 60  
 aaacttgagg gcagtagaag gagtatgcca agaactcgtt caaagagcaa agatgaacgg 120  
 cttgagagtt agagggtccc ttcgaatgcc gaggaaaact ctgagaatta ctaccaggaa 180  
 atccccttgt ggagaaggaa ccaatacgtg ggatcgcttc gagctaagaa tatataaaag 240  
 agtagtcgat atatttgca cggtgatgt agtgaagcaa gttactgcat atggtttcga 300  
 ctctgaggta caaacggagg ttactattag cgattagata gactgcaaga aaaataaaac 360  
 aggcgtctcg tgggaattta aaagaaaaca caaaaaaaaaa gggggg 406

<210> 3183  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-B10

<400> 3183

cgcgtagcat tacatttcac attctccttg tagaaaacta tgaagtcttt cggaattgct 60  
attgttttcc taagctttgt tattgcatct tatgcagcag ttgtatccga aatggcatcc 120  
aatgagtttc aaagaggagg atacgctcct tctccttcca aggaatgctg catgaccact 180  
tgtcaatatg cagaactttg cccaatttct caaccaactt atagccaagg ctccatctta 240  
cattccatct cctacctatg gccaaagctcc ttcttacaat caatattctt cttcgtacgg 300  
ttctctagc tatcgtctct taactgcaga cgaaaaccaa cttgtgagca gaggagggtta 360  
tgcaccaaca agccaatgta ttctagttcc tatccaatgc tgc 403

<210> 3184  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-063-Q1-E1-B12

<400> 3184

cgggtcgggc acgcgtccgg cgtttcgtat ggatcgcaaa caatatcgag caagtgatag 60  
aactgggtcg tattttgaga atagaaacgc cgactatcga aaccatggac gaaaatatgt 120  
ggcttcttcg acaaataaga agtttttccg gcgtcgagtt tattcaccta ccttggacac 180  
tacaaggaaa gaaacgaagg acgcttattg ggaacanaca agacaaactg ccagtggcac 240  
ccagcacaaa atataaagac gatagaagtt cgacctatgt aaatagccag gaaagttatt 300  
caaacttggg cacggaggaa agggaatccc cagcaactac tacagaactt gaacaaactt 360  
catcctgnga cgctcgtgt gtgaaagac 389

<210> 3185  
<211> 394  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-B3

<400> 3185

agcaagcaaa gaagtgacgc agtagatcag agagtaacac atgcaagtag gtaaagcgaa 60  
cgggtgagta aagaggtgtg aaagagtggg agaacatgaa agcaccagag gatgttagaa 120  
atgggtatag ttaaaaccct taaggagtt aaagcgcgga atctcagaag aggaaagcca 180  
cattgtggac tgagaaaaag tgcaaacacg agaagtcacc actggggaaa attgggcaat 240  
gtacagggaa gtatgacca gtaatgagga gtggagtaaa cagaaaagga agtaaaagga 300  
gggaatgaag ggaagtattg gcaaaaacac gtgccagcag cagcggtaaa acgtgtgtag 360  
caagcgttga gcagaaaaaa ctgggtgtaa aagt 394

<210> 3186

<211> 260

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-B4

<400> 3186

gataatgata ataggaggga gtagtacagt aattgtaaaa ggaaaaggaa aggaaagaaa 60  
gaggaaaggg ataaaatgca aaaatcccaa aaaaaaggca cgaaagaaaa gaaaggaaga 120  
cccattaaat aaggcaagaa accataggaa ttaaaccgga taagaaaccc ttttatccaa 180  
gccattaaag aaacaattaa ttataaaaaa aggaattcat tcaacaaggg aattaaaggc 240  
ccacaaacaa accccaaacc 260

<210> 3187

<211> 369

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-063-Q1-E1-C11

<400> 3187

cgcgtcaggg ggaaaagang acgaaatgcg agctgcattg agtttggtta tttcccaacg 60  
ggagttgatt ggatcgtttc ctgtatagtc tattcatggt gatatttttt gccattgtc 120

attttgcaact tgtaaacaga aaaggcattc agacaaggaa atattgctct tcttgcaang 180  
 gaacgtatatt ctgtagttgg caagcttatc ctggagatga ctggatatct ccatttgcaag 240  
 tggaagtcag acatacacta ttttaataat catagcaacg gtggtagcag taataatagt 300  
 gaaagcccaa tttcagcacc tagaataactt gtattatatg gttcgttaag acaaagttct 360  
 ttatcccga 369

<210> 3188  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-C6

<400> 3188  
 ggcaattgtgg ttgcaaaggg gtttgtatag gtgggagtag tgaagataag caacaagaag 60  
 aaacatgaca agcactgtac tagttgggaa atggacaagt ttgctacgtc caacgttggg 120  
 aaaaaacacg gtaccagtaa caagctggag gaggggtttc gcttcccttt ccccaaagga 180  
 ctctcctgtt cctttgtcca aacctgaggg ctcgttagaa tatgtagttt ccaagttgga 240  
 cgacctttgc aattgggcta gaagcaattc cctatggcca atgacttttg gtttggcttg 300  
 ttgtgccgtg gaaatgatgc atgcagcagc tcctagatat gacatagacc gcatggggat 360  
 agtctttcgt ccttcaccta ga 382

<210> 3189  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-C9

<400> 3189  
 gcgtcagccc aagcgtccgg cttgggagaa acggatcgat ccctgttttg caagagacaa 60  
 tgagcagcac caactccacg acttgttcgc ggtttcaact tttacaagct gcttttgaca 120  
 aggcggtttc cacgtttcta gaaaacggct gttcttactc taagttttcc gagttcttcc 180  
 agcccgttgc ctctgtttat ccagaggaat ttgagctgtt gcataaaciaa cttccaaciaa 240  
 ctcttagata taagactaaa gcaagaattt cagttattgc tccaagataa agatattgca 300

actaaactcc aggtttgcga ccaactcttc caaacgtatc atgtggatag aaacggttat 360  
gtgagaatac ctttgaa 377

<210> 3190  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-D1  
  
<400> 3190

agcccacgcg tccggttgcg aagcgttgtc gttatcgtct atggcggtat ttgaaagtga 60  
tatagttggc cctgcaattc actttacgaa aaagtataat tcaaggaggc gctacaagga 120  
gtgcatttcg tgcttttagtg cttcgggtgg taaaccaggg tggttctttt gacataagcc 180  
gaaaattact cgcaacgggc tatacgactg ataagggtat gaagaccaat aatggtgctg 240  
ttcgagaaaag tgacttttac gagagagtct tttcaagaat agcttcaaag cgctctgact 300  
tttgaaaaga agtttctgta accttagtag tctctaccat tgacaccgag tcggataagg 360  
ttatttcagt gtggaacgcg ttt 383

<210> 3191  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-D10  
  
<400> 3191

cgcgtaacgcg gaagcgtggg agagattgga agagtcgtcc tggatgaacta tggcaaagac 60  
cgaggcaaac tgggagtcac tgtggatgta gtagatcata atagggcggt gtagatggc 120  
ccactcacgg gacttgcgag acaaaccatc aactggaaga gcttaacgtt gaccccgctc 180  
aaagtaaaga ttcaacactc cagtcgtaca ggagttgtga gaaaggcatg tggagaggc 240  
gaaaatcacg gaacaatggc aaaatacggc gtgggtataag aaactttgtg cacgaagaaa 300  
caaacaaaaa cttggagact ttgatagatt caaagtgatg attgccaaga agagaaagtc 360  
ggctatgatt catagt 376

<210> 3192  
<211> 337  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-D11

<400> 3192

caattctcgt ttttatctta cttgggcaca gattgagttg cgtgcccaaga attatgaaga 60  
agctgctcgt ctcgtctctt tggaggagcc attgggacct accaatgtgt atctatggca 120  
aacctatgct cagatagaaa gtgctcaagg tcatttggga caagcctatc attactatct 180  
gaaggctctt gagttggatt ccaacaatgt aaagagttat ggaatgtctg gcaaaattgg 240  
tagccaaaaa gggtaatgtt gatgaatcaa ggagtatttt tataaaagct attgagttgg 300  
tcgaaaaaga tgcccgttta tatgcatggt tggccaa 337

<210> 3193  
<211> 392  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-D2

<400> 3193

acggcaacgg aagacacgtt tgtacaactt gcgaaaactt taggagatgg gaaaacgccg 60  
caagttatga gaaaaagata ttcacagttg ttgcggtggg tacagcaatc ttccaaatct 120  
gtccatcgtt acaacaaatg tgagacttga atgttggtta aagtttattc tccagagcgc 180  
ttgaatggtg gtagacgtag ttgtaataat aataagtcac aactgggtgt tcgtccaatt 240  
gttaaggaca tcactaaata cagttccttg aacggcataa caaaagtcgt caaactgaac 300  
gttacagaaa atcttatgga agctttccac actgctccat tgtaaagtta tatgtcttga 360  
aatgaaagg ttataacaaa tatcaaaata aa 392

<210> 3194  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-D3

<400> 3194

cccacgcgtc cggtcgattg aaagtggaaa aggaattgac tggtcgactg cggaagcctt 60  
 ggcaattggc actttattgg cagaaggaac aagtgttcga ctgagtgggc aagatagtga 120  
 aagaggaact ttttcccaac gtcattcggg ttggatcgat caagaaaatg aagctgttca 180  
 tattcctttg aacaacttgg gaatgacgca agctcgtttc caagtctgca attcgagtct 240  
 ttcagaatat ggcgtgatgg gttttgagtt gggatactcc ttggaaagtc ctaatatctt 300  
 agtgatatgg gaagctcagt ttggagattt tagtaacggg gctcaagtta tcattgatac 360  
 ctttttagcc gcaggagaa 379

<210> 3195  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-D7  
 <400> 3195

agcagacgcg tccgtcaggt cgatcatcag atgtcggagc caatggagat gtcgcttggc 60  
 gtgtttcaag ggaccctaaa gtgcgacgca gactgagacg gtgattgcgg tagcacttat 120  
 cagttgaact ttaaccagta tggtcaccat ttcaagtgc ctttcgacga gagaatgtgt 180  
 tctgcacatc gtgttgggcc tcgcgtcggg tctcgtctca agggagaccc tctaggacag 240  
 tcacaaccta tgtgaagaca atgggggtgc gaattgaatg gatacagttg tgacgatagt 300  
 tgtcaacgta tgcattcgtg tcagcatact gggagacacg agtgtagaac cgtcgcctca 360  
 tcgt 364

<210> 3196  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-D9  
 <400> 3196

ggtcggccac gcgtcagggg aagaagaaag tgctgctcgt aaacaagcac gaattgattc 60  
 tgggtgaagaa actattgttg ggggtgaacaa gtatcggctg gagacttcat catcatcttc 120  
 caatacagac tcttcagtc agaagtctga acagttggaa atcttgaaaa tagatgcaca 180

acgagtacga gattctcaga tagaaagaat taaaaaagta aagagtagtc gagatgagga 240  
gaaaagtgaa gcgctgtctg atggagctgg aggaagcagg aaaagataaa agcaagaatt 300  
tattggaggc ctgagtaaag gcagctagag ccagatgtac tttaggagag atttgtggtg 360  
cgctggagaa agtatgggga agacatgttc ccaaagatg 399

<210> 3197  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-063-Q1-E1-E1  
<400> 3197

cccacgcgtc cgggaagaag atgggtccaag agatgcgacg agcgggttgct tctcacgctt 60  
tacgtgcata tgtccctggc aagtttactc gttccgtact aagtatcttg tgcattataa 120  
gtgcagggtg tattggtgct gtgggagttg tttgttttat attctgtagt atcaatccga 180  
gaaacgttat catcaatgta tatctcatta tatttgcagt gttgataatc ctttccgagt 240  
tgggtttcag ttttctgttg aagcggtttg cgttttttaga tacgtttttt ggacctggaa 300  
tattttacat tttcgtgggt ttactggcag tggatacgca ctggtttcag atattggctg 360  
gtgtatttgc tgccg 375

<210> 3198  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-063-Q1-E1-E2  
<400> 3198

agcccacgcg tccggtaaaa tatgtcgaac gaaccaaata tttgtgaggc gttggagaca 60  
gctcacaaaa cgtgcctccg taaagttaaa cgagctcgga acaaggaagc aaagttgaaa 120  
gagtgtcaga gttattttga tatgctgaag gataatagtt gcccttggaac acctgaaaca 180  
agcaagcagg acgctgagaa atagtgaagc taaaatatca agtagaagga aacatactga 240  
ttttaaggaa acgaaggaag tttgcagtta tatttgtact agtaacaagt atcaaccttg 300  
ctcgtccctg cgcttcacaa gactatTTTT ttacaacaaa gtaggacgca agacagggat 360



atacagtgta gcactacctc ccttttggag t 391

<210> 3199  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-E3  
  
<400> 3199

agacattttc cacttttatg ggcatttggg ttgcgaagct ttggcgaagg ctttatcgga 60  
tacaggaact taaagtatgt atgatacgtc ttgataatgc acgcaagact actatactgt 120  
atcgacttca tttgggagat gtggtaatca caacacccac tataagaagt aatgtagaac 180  
aagtcaagtg tcgaaatctt ttatttcaag tatgggactt gggaggacaa gacagtcttc 240  
gtgaagcttg gcaaacttat tttgtgaata cgcaagccat tatttttgtg gtggacagtt 300  
gtgatagaga aaggttcgat ttgtctagaa aggagctgtt gagagtttta cgaatggaaa 360  
atctatccaa ggctgtgttg ttggtttttg 390

<210> 3200  
<211> 130  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-E4  
  
<400> 3200

agacaaagtg gagctattgc caggcacttg gcaaggaaac atgacaaata tgggaagaca 60  
gaagaggaaa aagccttgaa cgatatgctt tatgatatga ccgtcgatat tcacagcata 120  
tacctaaagc 130

<210> 3201  
<211> 180  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-E9  
  
<400> 3201

actgagtatc aggaagaaaa gagggagtag atgaggaaag aaagatcaag gaagtaagag 60

taagagaagg agtaatgtga atgaaagcac gaaagtatth gaagaagaga gtgtaaagcg 120  
cgtaccttht gcataatgtc ccagcgagtg aaagagtga gcacaaagaa agaaaaagaa 180

<210> 3202  
<211> 292  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-F1  
  
<400> 3202

ggaagcagac cacacgaact ttggcaatgg catattctgt ttggataaac tggactgggt 60  
ttccaacaga aaattggaaa aggttgcagc tctgccgtga ccgagatgct gcaaaagtaa 120  
tcgttgcaca gttggataga ttgacggcag tcatttcggt catccgtcat cctgcaaaat 180  
gctttcgtct aatgtctcac gtgtgaaaaa tgcagtgtta cgaagtgccg atcgcttgta 240  
actttttcct acaaaaattc tctctggaaa attaagtcga gaaatatcaa tt 292

<210> 3203  
<211> 372  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-063-Q1-E1-F11  
  
<400> 3203

cacgcgtcag agcagatttc aacggatatcc tgthtgaagg agggaatatg gaggttgtca 60  
aggtcggctt tgtagctcag cagccttggg agagctacag taccaatcgt cgcagcttat 120  
tacgtacaaa acgtggcctt ggtcgtactc gaaatgttht tatgacagtt acaccagata 180  
ggaaacttgg gacctctggg ccagttccac ataccattgc accctcttgg tggaaaactt 240  
tcggatgaag agaagaagag agccatgcag gtaaataagc ctgaaggagt tacattttct 300  
gcaaagtatg tggctthtga ccaggacgat gattccgaat atgacttgaa tcaagtcgtt 360  
tatccagcaa ag 372

<210> 3204  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-F12

<400> 3204

gcgtaagaga gagaatgccg ccagtctccg cgtttgtggt tggcacacct ttgttgtag 60  
aaactgggta ttcgacttgt ttgcgttgca actctttcaa caacaagtgt agaaatacta 120  
acttgacttc agtgactctg cctcacaaga aatggagtgg tacctattcc cagttccatg 180  
gcaaccagtc cattcttcga caaactcgac tccctttttc tttcattccg catagaaaac 240  
aacgacgata tggacctttt aaacccatt cgctgtgaag aagaagatta ttatagtgtt 300  
cttggcggtta gtcgtaatgc aggtaccgag gatatcaaga aagcctttag aagactcgct 360  
agacgttatc acccagacgt aaagaaag 388

<210> 3205

<211> 319

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-F2

<400> 3205

aggtacttgt cagttggcaa aacaggcttt cgatgatgcc ataacagagt tagatactct 60  
ttcgggaagag agttacaagg actctactct cattatgcag ttgttacgtg ataactttac 120  
cttgtggact tcagatatgg gcggtgaaga agatggaaac gcaacgaaac cagacggaaa 180  
agttgaacca gacccgaaca aaaaggagtg atagataaaa gcatgtgcga tatgtgtgtt 240  
tttgttttcg actcgacat tgcttttgca cgataagaac aaagaaagag agataacttga 300  
atatgcaaga cagatgaat 319

<210> 3206

<211> 382

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-F3

<400> 3206

aggggttgtg gaggtggtat gaggaatgct taggtttgca gtagactata cttttcttgc 60  
cccccatgag ggtaaaagca aactatgatt gaacgccttc gctgtgttgt ttgtggggta 120

accgatactc ctttgtggag aagtggaccg agaggaccga aaacgctttg caacgcctgt 180  
 ggggtgcgtt ggaaaaaggg aaagttgtat atagatggaa agcaagcgtc cccaccttca 240  
 gcgacaatag agaaaactag acaaaagcaa gcaaagggtg acaaagttac cacctcgctt 300  
 cactcccaaa gttatgatag tcctcaccaa agttgtgcag tcgaagaacc acaagcctcc 360  
 aaatatgagg ctttcccaaa at 382

<210> 3207  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-F4  
 <400> 3207

agaaagatta aagagtcgcc ctggtcgacc atcaccgcca tttctaggat ttattatggc 60  
 tgcaaatgga tatagtttag acaagcaatc cattgaaaga atattacgag aaattgaaga 120  
 acaaaatcct tggtcacaaa cagtatcatc agatgaaaat ggtgaggtga aaagcttata 180  
 aaaatgttcc acccaaggtc tttacgtgaa ggtttgatat acaagatgta aataatatct 240  
 ttgtgtgata tcaaaccgcg aataaggacc gagatcaaaa atcgcgcttg acgatacggg 300  
 ggagtgcac aagtaaaagt ctctcatctc agacttcgcg aaacattatt aaaaggtttt 360  
 cttatcaca acttatctcg aaataata 388

<210> 3208  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-F7  
 <400> 3208

ccacaagttg atagtgagtg gaggagatga acctttcctt tatatatggg atactcgctc 60  
 gggaaagctt gtaaacaagt tagatttggg tgcccattgt atcaagtctg ccgaaatata 120  
 gagcacgggt tcttttacca aattaactgc agtaactgga aatagtttac aattttggga 180  
 cttgaatcaa ttatgtagaa tggacactat gtctatttca caagatgcag aatgtgctag 240  
 ctcaagtgga aatcacgtcg tcgtcgggtg tcgtgacttg caaattcgac tctatgacac 300

aaatacaaaag caagtgtctac atactttttca tgggtcatcat ggcctgttt ggtgtgttcg 360  
 tttttctcct ttaagttatg ggtttgcctc aagg 394

<210> 3209  
 <211> 227  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-F8

<400> 3209

agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa aaacaaaaaa accaaaaaaa aaaaaaaaag ggaaatcaaa 120  
 aaaggggggg cgcacctga ggttctagtc tttttttccc cgtccagcca attttagacc 180  
 ccttcattg ggtccctaaa ctttcatttc atggcccgtc gctttta 227

<210> 3210  
 <211> 326  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-F9

<400> 3210

tgtggttaag tttattacca ggagtgcccg ttggatgttt cattataggc ttttaatttc 60  
 gagctagcaa catccatgtc gaagaatgaa tttacatttg gggatcata acatattata 120  
 tgttttgggg ttctggtatg ggaccttatg cttgggtact gggatcggtata atatatccaa 180  
 cttatattcg aactgaatga atggcgctag ttacttttgt ggacatacat tggaaacttt 240  
 aataacaact aatgcctttc caacaataaa agaacaatta atggctcaag aaatttcaat 300  
 gggttttaag gaaggtttgt taacaa 326

<210> 3211  
 <211> 285  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-G1

<400> 3211

agttctcttt caaaatccag tcacaggact tggccttgca agtatttgga tcgtattggt 60  
 aggttctctt agttattcta tagtgcgctg tagagagatg atacaaaagg cagtccaaga 120  
 acgtttacca gagaaagtat gaagttgcgt attttatttt taggagacac tggagttggt 180  
 aaaactgtaa ggtgaaagaa gattggtatg tcttagtaaa ctcatagagt tactaaaaaa 240  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaagag agaag 285

<210> 3212  
 <211> 61  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-G11  
 <400> 3212

aacacagcac tctgcagaaa agagaaaatg taaagtataa agtgtgcggc ctgccaaata 60  
 g 61

<210> 3213  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-G12  
 <400> 3213

cgcgtcagcg gtagcgtggg cggacgcgtg ggcggacgcg tgggcggacg cgtgggggtg 60  
 aatgagtgcc gtcagttgta tgaacgagcg gcttatttga cagattcgga actgcgaagg 120  
 tttcggttgg aataccattt agaaatgaac agagcgcttt atcgacttgc ttatgaacac 180  
 tggaaagcac atatggattc gggcaaaagt tgggagcaag ttttcagact ttgtttacaa 240  
 acagcgcacc tttttgcaac tacaagtgc ccaacgataa tatatttata tattacttgt 300  
 ttctcgaacg gtatctcgaa tttcttccat ttccattct gctttgectg tcaacctcaa 360  
 cagcagattg tgatacctcc aaccaagttg tg 392

<210> 3214  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-G3

<400> 3214

agcactgata cattgtttac caaggaaaca ttcataatcg aacaaaaaa acgagctgaa 60  
aacgctttgc atagtctctc tttctttcaa tggttcttac cgcaaactgc atttggttta 120  
tatttcttct gaaacttggt taacgcaagt tggaacaact cttctgcagc gttcggggga 180  
catggaacga tgaaagcaaa ccttgccctg gttcttgaac gaagtgtgta gtgtaaactg 240  
tgaaactaca gagtattata aaaagaacgg agttcgtgag catccatacc aaatatgaat 300  
tcaccttga tategaaaac actccttttc cgtctttctt cttcagcttc ttcggaaagg 360  
gctttcattc gcagttt 377

<210> 3215

<211> 373

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-G5

<400> 3215

cccacgcgac cgcccacgcg tccggacaat acctagggaa tatgttgaat tggcaacttg 60  
gcgttatcaa cagtttaatg ttcgaagagg tgcactgttg aatagggagc aaagcaagga 120  
atcagaacat tccaagttgg agagttactc aggaaagctg ggaggtgaat atttttgttt 180  
gtgggttagt gaaaatgttt ttagtgtcga cacaatagaa gattatcgca agattgcagc 240  
gcatcattat tggcgtaaga agaattggga taacgttaca aaccaaacgg aaaacgacga 300  
atctagtaaa agtgccgtta ttttggccga gagagaagag aaacaattca cggattcggg 360  
atatagttag aaa 373

<210> 3216

<211> 372

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-G6

<400> 3216

ccggctcgac ccacacgtcc gctgagagga ggaaagccac attggaattg agaaaaggtc 60

caaacaagag aagtcagcag tggggaaaat tgggcaatgt acagggaagt atgacccagt 120  
aatgaggagt ggagtaaaca gaaaaggaag taaaaggagg gaatgaaggg aagttatggc 180  
aaaaacacgt gccagcagca gcggtaaaac gtgtgtagca agcgtagagc agaagaactg 240  
ggtgtaaagg tcgagtagta gagtaagtgt aaaagggaaa ggaaaggaga gaaagaggaa 300  
agggatgaaa tgcagagatc tctagagaaa ggcaagaaag aaaagaaagg aagacacagt 360  
aatgaggcg ag 372

<210> 3217  
<211> 369  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-G7

<400> 3217  
gaggatctcg taatgaagtg gaggttgata gcgcgttttc atccaatcga cgtcaagacg 60  
tccatcgaga gtttgtaaac acggagagct cccattctcg ctggaaggac aacaataacc 120  
atgaggttgc ggacaattcc atttcgagtg cctcaagaag aaacgtaatg atggttggta 180  
gtttagtaga gaattcacgt tcgttcccgg caccaagtag aattcgaaag tccagattcc 240  
atccatcagc gagacagtgg agtccgaata agaaaccgcg tagaaatttg gatgcatggc 300  
gtgactttcg gaaacagaat ggatggcact gacacgcgga agaaagaatg tcagagaggt 360  
tggcggggtt 369

<210> 3218  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-063-Q1-E1-H1

<400> 3218  
agtgttggtg gtggaaggcg taactttgtg ggtttcctta caagatgtct tttatatattc 60  
gtggaatcaa aggcccttcc aatcctcggt atggacaacc cgtggattta cccaccggaa 120  
taatgtatag cttgaagcaa atgtcgtaca ttgtccagtt tgctttttct gttgtagtca 180  
ttgctatggt ctcccaagtt accttttata tataccgtga ctttaagtgt gctttcgatg 240



ggcattggga ttacgccacg catagcgaag tgtctgtgcc tgtgggttat tgccgttact 300  
 tcattgcttt ggggagcatt tccatcgtag ttttagctat tggtgcgta gctacttttg 360  
 gaacgctgta ttttga 376

<210> 3219  
 <211> 206  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-H10  
 <400> 3219

cacgcgtcag acacaatttg aagtttgttg ggcaagttga gcttttgtat tagcaccttt 60  
 tttgtgggtt ccctcggttg gttttgtctt ttcaaaactc gaagactagt tatttcctag 120  
 tatatttttag aggctttttc tagagtttgc ttttggaatt gggaaaaccc gttcctcgtg 180  
 gggtgtaaag ggttttatca acaaaa 206

<210> 3220  
 <211> 318  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-H11  
 <400> 3220

tcttgaaaga cataactgca agtattgaaa agcctgacat aaaatggata actaggacga 60  
 atctcagtag ttgtctgaat tctgcagaag gaaatgtcac ggttgacttg tcgcggcagt 120  
 gtagcttgaa ggatatatatt tcattgaagc ttctcgacaa taactttaag ttggcgtgtt 180  
 ttaatgatgc cttgtttttt agttttacca ggcttatacct ttgttattac tggtaatcgt 240  
 atattctgta gacgctcgga cttgaatgaa acggaagcat tggagtcctg cttttcgttt 300  
 atgaagatat gccccacg 318

<210> 3221  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-063-Q1-E1-H2

<400> 3221  
aggagccaac caccaacaac acgagatgac cgactccacc gctgctagtt ggagaacgag 60  
tacttcacct tcttggtcca ctttcttatac atggaagcgt ctttatgggt tgtatcaacg 120  
ctatatattg cctgaatatc agaaacctct gttgtatact ttcctaggaa tattatttct 180  
ctccttggtg cgactcgtat ggaaagtatc tcctctagac ttgtttcact ggttggacgt 240  
ggaatattat ctacaaaatg aagacggcac tacatttgga tatgtatatt ttcctttggg 300  
cactattcta tggtttatta tcatagtacg tgtattttaca aaggtaacca accgtcttca 360  
gtctcactat tattctagaa gaacgagttt gatacttggtg tgtgtg 406

<210> 3222  
<211> 358  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-063-Q1-E1-H8

<400> 3222  
ggcgggatcg aaactaacga tcgtggactt ttcgactaca tgggtgtggtc catgcaaagt 60  
tgttgctcca aaatatgaag aactcagcga aaaatatcaa caagttgtat ttttgaaggt 120  
tattggggac aagaatggag aaaccaacaa aataatgaag tctttcggtg tacgagcagt 180  
accaacgttc aagtttatga agggaaagaa aagtattcac gaggttgccg gggcaagaat 240  
cgatgcgttg gaagatggca taaagagcta tatgtagtta cttttggagc aaatgaataa 300  
gcacctttat ctattttcca tatgaagaaa ataaaaacaa tttatgaagg gaacaacg 358

<210> 3223  
<211> 338  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-063-Q1-E1-H9

<400> 3223  
acgcgtacga tttagaagga gattcagcgc ttagaaaata tattgaaaaa cgaggaagga 60  
aatatcacag attcgaaacg agccaatttt ttgcgtcgtc ttcatacct aaagtcgttc 120  
ctttcgaatg aaacggagga aacaaattcc taaaagttgc tgtaatgttg tccagacaca 180

gatattgtca ttcacagtga ataaagaaca gaaatgcttg cgaaaaaaaa aaatccaaaa 240  
 aaaaaacaac ttaaaactct tgcaaaggat cgaaagagat cactaaattc actcacagaa 300  
 tcgataaaaa aaaaaaaggg ggggcccggc aaagggtt 338

<210> 3224  
 <211> 331  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-A1  
 <400> 3224

agcccaagcg tccgccacg cgtccgggaa gaaagaggca aatacgggaa agcagtaaaa 60  
 gaagaagag aaaggaaaa actgagtatc aggaagaaaa gagggagtag atgaggaaac 120  
 aaagatcaag gaagtaagag taagagaagg agtaatgtga atgaaagcag gaaagtattt 180  
 gaagaagaga gtgtaaagcg cgtacctttt gcaaaatgtc ccagcgagtg aaagaggaag 240  
 caaaaaggaa caaaaagaag tagccagcta agacccgaga cctagtgatc gtatgctgtc 300  
 caagcgaagt aaggctgaac cagtatctgg t 331

<210> 3225  
 <211> 348  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-A2  
 <400> 3225

ccgggcccgg ccacgcgtca ggctagcggg gtgggaggtg tttggaaagt gtccaaccaa 60  
 gtgaatccat ctcgactgca gcgcttgga agaatgaaa gaggcgaag agcacgttgg 120  
 gaactttatg actccaagtt gccaaaggaa cttcgagcac aattaatgcc aagttctgac 180  
 aaggaagtac gaagttttgt ggaaatgaga atacgggaaa tgatattgaa cggagacttt 240  
 gaaaatttaa aaggcaaagg aaaaccattc aactattctg atgctgcagt gaggtagttt 300  
 gacgttgcta tgaagatgct taaaaacaat gatttgaagc caccttgg 348

<210> 3226  
 <211> 360

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-A3  
 <400> 3226  
 caggtgatgg tttaccgggc tcgcccacgc gtccgaaaaa aactgggaga aacgacacgt 60  
 tatcgttggc ctcatcgta ggtctttgtg tgaggaatat caacgacagt attcagagct 120  
 atgttcaccg aatgaaagca cgaaagatat gctactagta aacagattgt ttcaaattcg 180  
 ggaggagtcc agacaattgt ctttgttcaa acaaagagtc gattgttttt tgcggacact 240  
 tgaagacagt tggaattgga taaaagagac gaggggagca catacagaag agaagctttc 300  
 cgaggagaat tttgtcggca atagtatgaa gcaagtcgtg actgacacaa tagacttgct 360

<210> 3227  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-064-Q1-E1-A4  
 <400> 3227  
 ggtcaggata tccggggccga gccacgcgtc agcccaagcg tccgctcttc aaaaaacagt 60  
 ttctgtcctt gtgttggttg ggtaatgtct tccgttcgaa gggctagctc aaatacccca 120  
 gctactcgtg caagctcaag tacttcttcc ggcgctaaca gaaactcagc tgtgggttca 180  
 aaatggagtg ctggtaatct atcgggttca gcaaagagaa ttcaaaagga gctagcagaa 240  
 attagtttag acccccctag taactgctca gccggcccaa aaggagataa cttgtatgaa 300  
 tgggtcgcta cacttatcgg tccagcaggg tcaccttacc aaggaggtgt cnttttcttg 360  
 gg 362

<210> 3228  
 <211> 334  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-A6  
 <400> 3228

aaggagatag caagggttat gaaaatttta gtcagtgtaa agcgtgttgt cgactatgct 60  
 gttaaagttc gagtaaaacc ggacggttcc ggaatagatc tcaacaatgt gaagatgtca 120  
 atgaacccgt tttgtgaaat agctgtagaa gaagcggtag gtttaaaaga gtcaaaagtt 180  
 gcatcagaag ttgttgttgc tactgtggga ctttcgcaat cttctgaaca aattcgctact 240  
 gcgttagcta tggggtgctg accgagggcat acatgtgcaa gtggaacaag agttgccgcc 300  
 atccatcggt tcaagagtct gtcaactcct tttt 334

<210> 3229  
 <211> 311  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-A7  
 <400> 3229

caagtattca aataccaagt acaatacagg tttaccattt ctggatgcag tgtgaagaac 60  
 gtcagatagt cttcatagag cagaaattaa tttcggaat tattactata taatcaaagc 120  
 tttacttta cgatgtaggg acaatctgaa agtgctctta agatagaaac ttctctcaga 180  
 gtagttgagg ggacgccttc gtcttcgttt accaaaaggg tctttttcag tgcaacaatt 240  
 tcgtttgttc taatatcttg agctttatac acctttccat aagtaccttc tcccaaaaaa 300  
 aaaaaaaca a 311

<210> 3230  
 <211> 381  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-A9  
 <400> 3230

gaccacgcgt acgcccacgc gtccgattta tcggagtgtg tcgataatgc actaaatgag 60  
 ttggaaagct gcaaagtgtat tgcgttgga ggtcctgaag aaaatgagga agagatgacg 120  
 gatgaagtgc aagtgaagaa ggaagatgca gatactgcaa taggtccatt gaatttgggt 180  
 atgattgctg cattttatta tatacgatac acgacagtgg aactgtttgc ttcgagccat 240  
 aagcgaaaag attcgtctga gaggtctcct ggaagtgtga tcttccgcat ccgaatatta 300

tactgttcct atacgtgtag gtgaagatga aattttaaga aagatagcta gtcatgcccc 360  
gtttgctcct attggaagca g 381

<210> 3231  
<211> 334  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-064-Q1-E1-B1  
  
<400> 3231

cacgcgtcag cccaagcgtc cgggtggggt aacggatgaa agaccactgc atgaggataa 60  
ggaatctaac tgagtaagga aaataagctt aagctagttt ggctggggaa gtaaagccta 120  
agaaagagta aattaggcaa gcaaaggcat gagagaagta taatagcaga agcatgcttg 180  
aagaaaaaga aagagatttc agaaagggaa gaaaagtcag ctatagagaa caggtgaagg 240  
agaactcaaa aagaggagag caccgaacga tcgaagaaga aacgttgggg gtaacagggt 300  
aatgtggtgt tagagaacgt atcaagcacc acga 334

<210> 3232  
<211> 334  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-064-Q1-E1-B2  
  
<400> 3232

cacgcgtcag gtgatcctct ttcttgccgg catgtactga caagcaaaag taagacatgt 60  
tcttgtctgt ggaaagaaac actttgttcg taccatcata ttccccaggt tattgctgcc 120  
atgcttcgta ccacataggt gcaagcacga ggaaacttgt gcctaaatct tcctccagtc 180  
tctacgaaat accatcggct ttaactaggt ggaccattct ccatcgctgt catcattgtc 240  
ttcttattcc taccagtggc taccacaata ctgcaacacg atgtggcaag tcgtctcagc 300  
gcaatacaac ggacgatagc gggaacagca acaa 334

<210> 3233  
<211> 317  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-B4

<400> 3233

cacgcgtcag gcgacttttg aagcagttcc acaggcgatg cgggactgtc ccgttcactg 60  
tcggtctttc tactcaaaga agactagggtt caaagcctac catactatga gacgacgaag 120  
cagaacatac aagtgtcggg ttccaccaaa gtttctcccg agtccgccta ataaataaac 180  
tagtacgacg cgtggagatt tggttccttc tcaagcaaga taacagctgt aaaccaatcc 240  
ttttcccagc taacagccta gcaggagatg agcagtttag cggggaacag agcgatacaa 300  
agtttgctgt cattttt 317

<210> 3234

<211> 325

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-B6

<400> 3234

agcttgcttt tggcgttgcg tcactatgaa aattcgttgt tatccacgct ttctcaattg 60  
tctctagtat ggagtagaat gaacttggag tttccgacag attcagctgc atttcatgtt 120  
atgccgtcta tacattttca ggaatcatct gaagaacaag aagggccaaag tgggaaacga 180  
acaacatttg gtcccaatga atgggaacga atcgttgccg aagaattgcc ctacaataag 240  
atttacattc ccatgcacgc cacttcgaat ggaccagata ctctattcaa gttacgtgaa 300  
catactaaga atgaaacctt gcttg 325

<210> 3235

<211> 332

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-B8

<400> 3235

aacatgaagt tggactagtt cacgtaaagt taactcctat gccgtggatg gtcctggttt 60  
attaggttgt gagattcgct agttcttatc gtgacttggt gcaaagctga ctggtgaaat 120  
gtagtttata tatttcaggt gttgcaagga aagattccga ttcgaatact tgatggcttt 180

tatatctacg tcaaaatggt tctagctagg tggtgttttg ctgtctgtaa agcgtgcgag 240  
aaaccctggt cagtaagctc tggatatcaag tctctggggg cagtcgaata catagcaaac 300  
tctatacgac ttgatagttc gatagagtcg gt 332

<210> 3236  
<211> 265  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-C1

<400> 3236

cacgcgtcag gccaagcgtc cgcccacgcg tctggccacg cgtccgcca cgcgtccgcc 60  
cacgcgtccg gccacacgtc cgcccacgcg tccgccaag cgtcgacca cacgtccgcc 120  
atgttttact ggatgctcga aaatgctcct cgaacggact tatagatgct tatcgatgga 180  
gctttccgcg gtgtaatgac ttgtaataat aaagttgggt tgcttcatt tagtacgata 240  
gacaatcacg gtgtttccat acgtt 265

<210> 3237  
<211> 357  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-C12

<400> 3237

cccacgcgtc cgcccacgcg tccgcccacg cgtccgctgc cttttgtcgt aaatgtattg 60  
tttctgacaa agaatttgaa atgtggggcg atggagaaca gactcgttca ttttgctata 120  
ttgatgacgc tgtggaagga gtgattcgct tgatggagtc tgactttgct gaacctctga 180  
atattggttc agaagaaatg atatctatga acgaatatgg caaaactcat catgtcattt 240  
gaaaacaaag acctgaaaat caagcatatt ccaggtcctg aaggagttcg tggcagaaac 300  
agcaacaatg agctttgcag gaaggttttg ggatgggaac ctaaaatcag ccttgcc 357

<210> 3238  
<211> 332  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-064-Q1-E1-C3

<400> 3238

agcggaattt ataagacatc gtacagacgg agatattgaa aaggctagac atgatgataa 60  
cgcagatcta cgagatccgc aacctgatga gagtagagta gaggatcctc attgggttagt 120  
ggttattggg atttgtactc atctaggctg tattcctata gccgacgctg gtgactatgg 180  
tggtctgggtc tgtccttggtc acggttctca ctatgacgtt agtggccgca ttcgaaaggg 240  
acctgcgcct tccaacgtgg aaatacctcc gtacaagttt agcgaagatg gaaaaatgat 300  
tattggatag tttgtttgga atgtttcggt gt 332

<210> 3239

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-C4

<400> 3239

ccgggcccgc ccacgcgtca gcgaagaaat caacccttg ttttggtggt cagatgaaga 60  
tttactgctg ttacaaggca gtccaacttt atctgcttgt cagcaactga gagaaaaact 120  
tgtgagagag tatacatatc tagagaagca tattattcca caaatcccga acctggcccg 180  
tatagacttt agacaatttc agtgggcatt tgggtattctt ttttctagag ctatttggtt 240  
tcctagtacg aagagaattg cattgggtacc ttatgcagat ctgctcaatc agagtccttt 300  
ttgttccgcc tttattgatg aagaaagtat tccacttgga aatgga 346

<210> 3240

<211> 319

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-C7

<400> 3240

aaaagaagag tgcaatggtt gaaaagtaga aacagagtac taaggtagct gtagaggcgc 60  
acttgaaaaa gtggtcacgt ccttttacat gtctacaagt attttttttg cttgtagaga 120  
ttgcaagttt agtgtacttg acaaggtttc caagtatcat tcagtgcctt taagcacgtg 180

tgagtgtact tggaactttt caagttgaat aggtagacgt tgttgacgaa agtatgtaga 240  
 aaaattgaag cggtattagg ttaagctaga agaatttacc atacgagaaa agtaaacttg 300  
 aaatttttct gattaataaa 319

<210> 3241  
 <211> 359  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-C8  
 <400> 3241

aggttgcggt tgacgtgggg tagtgggtcaa ccaagagtcc ttgggacaca aactatgtcc 60  
 acaacttcat aagtttgtaa agtttgagta cttgcaatga gctatctagt aggaaatacc 120  
 gaacaagatt tacaagccaa gaaaccaaca tatgaagaac tgggtggccga actatctcaa 180  
 ctcaaggcgg atttattcgc agaaagacac aaaagaaagg tagttgaaca agagttgaaa 240  
 gagttgaaac agttgtcgtt ttctaggcag actcatatcg aggcagaaga ggagtatatt 300  
 gcgaataaac tcataaaacg gctcagagag ttgagggagg aaaaggaacg cttggcggt 359

<210> 3242  
 <211> 323  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-D1  
 <400> 3242

ggaagaggaa agagatggtg gacaaggcaa tagccactgg acgtttcaag gaccgagtta 60  
 ttattataac tgggtgcagca ggtagttttg ggagtaactg tgccaatcga ttcgcgtcag 120  
 aaggtgccaa agtggttatc acggatattg ttgaagaagc aaagcttcaa gaacaagcaa 180  
 agaacattga aaagcagttc aacaccaagg cagttgctgt tcgttgatgat gtgacaaatt 240  
 aactcaagt agagcaggta gtgaagacgg cacaccaagc ttttggtaga atagattacc 300  
 ttttcaacaa cgctggttat caa 323

<210> 3243  
 <211> 360  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-D11

<400> 3243

gacccacgcg taaggacaag tagcaaatg ggcaagtctt gtaaaggctt gtttgatgaa 60  
ttggttcgtt gtctgagtaa ctccgagtgt gtgaagaacc atcctgacaa aaagactgct 120  
ttgaaagact gtgcaaagag taatgggaac gatgtttcgg actattgcaa gggagtaaag 180  
gactcgtatt ataaatgtcg tcgagcagcg tttgatatga gaaaacgcat ttcagagagt 240  
cccagggat tagttgacaa agtagtttgt taacaaagta gttgtatatt ctcagaagag 300  
ttgcagacat tggactagga acaagtgtaa gcggctagta aatttttatt cgttatggac 360

<210> 3244

<211> 336

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-D3

<400> 3244

cacgcgtcag gttagatttc ctgccagaca aaatgaacga cgcacaagta aaacaacaag 60  
tacagcagat ggtctctttc attaaacaag aagctgaaga aaaagcagac gaaataagag 120  
tcaaggcaga agaagagttc aacgctcgaa aactgagtca agtagaggcg gctaaaatac 180  
aaattcgctc cgagtacgaa agaaagttaa aacaaatcga gtccaaacta aaagtcgcgt 240  
attctactga acttaatgcc tcaagactac aaatcctgaa acagagggaa acccttctta 300  
aggagattta tgaagttggt gaaagagaac tttcca 336

<210> 3245

<211> 318

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-D4

<400> 3245

cacgcgtcaa ccaaactggc gtcgctgtag tacattcctt tgggcatact tgtacaacca 60  
tgaagtactt ggcagcttat tttttggcta aaatgggaag caaacaaggc agacctactg 120

cagatgatgt gaagaaaata ttgacttccg taggtatcga agtagatgaa ggtcgtctca 180  
cgcaagtcgt ggaagctttg aacggaaaag atttgaacga gttgatcgaa caagggttac 240  
agaaaatgtc tacggtgcct tccggtgcc a ctgcagctgt tggagcagca gttggtggag 300  
caactccggc agcacgag 318

<210> 3246  
<211> 345  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-064-Q1-E1-D6  
<400> 3246

agaatcccca aacgatgctg ttgggtcagg aacctagaca aaccacttcc aacgtgggat 60  
acttgaacaa accttcatt caagcgctaa tccacggctt aaatcgacat tattattctc 120  
tggcagtggc ttatcgtaag aacgagctgg aggaacaaat gttgctcaat ttgcataaga 180  
aacactggag cagaggctta aaagtgcag actttgaaga gcgagctgag aaaaatgaaa 240  
aggcagttca gtccatgttg gacttggcaa agagttatag caaaatgttg gaagaagaac 300  
gtcaaagac aaaggaacag gctgcaattg caaatgttgg gaaag 345

<210> 3247  
<211> 323  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-064-Q1-E1-D7  
<400> 3247

agcccacgcg tccgcccacg cgtccgcaca gtctgtgaga tggcaacgtt gctgcattct 60  
agtcattggc aggcacaagt tcgacttgcc accgcagatg gaggaccagg tcgatacacc 120  
gaacttttcc aagaatttgt ggtccaagtt tctcatgaaa gatgcacgga atcgctggtt 180  
ctccgcggta acaatttctca agtagtcaca aacgatactt agaaaaatat aatttactgg 240  
gtagtgaac atcacgcttg tcaactcgggt gaaaaactgg ctatggacat tggttgtatc 300  
ttcatggcac actagacctt tgt 323

<210> 3248

<211> 323  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-D8

<400> 3248

gaatggacga taaggaacta ggcaaaagga tatggtatct gcggtagaac atatgaaaga 60  
agcagcaccg actgttttagc aaaaacacag cactctgcag aaaagagaaa atgtaaagta 120  
tacagtgtgc ggcttgccaa atagtagaga agaaatcgat gaaagtgaaa gcgagtaaaa 180  
gatgaggtat agagaatggc ggtcctaacg gtaaggatcc aaaggtagcg aagtaaatag 240  
acgtttgaaa ggcgtccagt atgaaaggag aaacgagtgt agcactgtct agtcgtccaa 300  
ctcagcgaaa cagcaataac tgt 323

<210> 3249  
<211> 161  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-D9

<400> 3249

cgaccacgc gtaagggcgg tctctgtcga tttgtactct cctttcgctt tttactaaag 60  
gagaccaggc ttaggtcgca ttatacagcc cttgaaacaa tttttgtcgt ctcgttagag 120  
acgttctcct ctacaataaa aactctatta tttttgtttt g 161

<210> 3250  
<211> 422  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-E1

<400> 3250

gttatattat tagtcttttg gttcgttcta tacttgtgaa ggaaccatct tttgtttgta 60  
ttgtcacgga gtttatggaa cgtggcactg tccgagactt gttattatcc aaaagtcgtt 120  
tggaatggaa tattcgactg aattgggctt tggatactgc gacaggaatg gcatatttac 180  
attcattgga accttgatt attcatcgag atttgaagac gaccaatctt cttgtagatc 240

gacgcttttaa tgtagaaata tgtgattttg gtctttcaag gttcatgtct aaagattctg 300  
 tgatgagtgc agttggcact gttcaagttg cagctccaga agtttgcatt cgtttgttat 360  
 taattggcctt tttgtggata acattgatga aaacaggtat ttacacatga gcgctatact 420  
 ga 422

<210> 3251  
 <211> 127  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-E2  
 <400> 3251

aggctatgcy tccgcccacg cgtcggcgca cgcgtcctgc gaacgaatca tcattggcta 60  
 ggccagtcac ttgtgtgcag ttccatgtgt ctgacatgaa ctctcccaag acagactttc 120  
 gtttgag 127

<210> 3252  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-E3  
 <400> 3252

agtgaagca agccacagtg gaataacgga ggggaacatc aggagttggt ggaagaagaa 60  
 gaagacaaag aacgaggtcat caagtcggaa acgacacatt ttgcacatct gaaacatttt 120  
 agtaatttga tttcccggga aggaactttt caggatctgc tgaatccggt tcgaaagtat 180  
 ctgccttgg aggaatccat tcctcttctg ttattggaag tgaaggaaca tttgattatt 240  
 cgcacatttt ctccagacac tgcattgcgg tttcccacgt accctcatga tcgtctggaa 300  
 gttcgagtgg aacgaattcc tagcgaagaa ttggaagggt gatacaaggg atactgt 357

<210> 3253  
 <211> 215  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-E4

<400> 3253  
aggccaagca tcagatggct cctccttaca gtcgttgggc ctggacaatc gttgcaaaaa 60  
ctgctctgag ttgcctccat ctctcattcc ttatcgctgc cgtagttgca gccgacgtag 120  
tttcagagga gagatagggga tatactcagc atcctcagta agagcaacag tgacaactac 180  
tatcttgaca gtaggcatac tatcaaagtc cagtc 215

<210> 3254  
<211> 322  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-E5

<400> 3254  
ggataatgag gagagcatcg tgtagcagct ctacacaaac cattacagaa acttcaaggg 60  
ttctcaagtt agaccttacc aagaaaccag aagagaaagt tcgttggact ccagatacgc 120  
atgacaatga aagagagaac cgccgaaagt ctaaaatatg ctgtatatcc cataagcgtc 180  
gaaggcccgga cgactcttcg tctagtagtg actcgagtag ttgtagcgat gtggaacaag 240  
acaacaataa taagtcgtta ccggaagaga agtgggctct tatggacaag gaaaaccaac 300  
aaagcttcct atccgaagcc ga 322

<210> 3255  
<211> 315  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-F1

<400> 3255  
agccccacgcg tccgcccacg cgtccggttg gtgaaatatg acaggaagag gaaaagggtgg 60  
taaagggtctt ggaaaaggag gagccaaacg tcatcctaaa gtacttcgag ataatatcca 120  
aggtattacg aaacctgcta ttcgacgttt ggcaagacgt ggtggtgtaa agcgatatc 180  
tggccttatc tatgaggaga caaggaacgt gttgagagtg tttctggaaa gtgttattcg 240  
tgacgcagta acttacacgg agcacgctcg tagagagact gtcactgcaa tggacgtggt 300  
ttatgctttg aaacg 315

<210> 3256  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-064-Q1-E1-F10  
  
 <400> 3256  
  
 gaccaacgcg tacggtacga caaagccaag tgaggaaccg aatgcaggta cagggcggcc 60  
 cgatagacag ttgtgaaaga gtgggagaac atgagcgcac agaagaatgt acgaaatggt 120  
 tagagtaatg gccatagtgg aagtcatagc gggaatctga gaggaagaca gccacgttgg 180  
 aactgagaaa aggtccaaac aagagacgtc agcagtgggg aaaattgggc agtggtacag 240  
 ggaagtatga cccaatattg aagactggag taaacagtag aggaagtaaa aggaggggaat 300  
 gaagggaagt tatggcagaa acacgtgccg gcagcagcgg taaaacctgt gtagcaag 358

<210> 3257  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-064-Q1-E1-F11  
  
 <400> 3257  
  
 cgtcgcaacc cgtcttagtg ctttgcgact tccaaaatga tattatgggt ttcgttcccc 60  
 ctgagaagaa ggaagccgtc attaaaggag cttcgaaact tttgaacttt gcccgtaga 120  
 agaagatccc tgtagttcat gtgggagtag gttttagacc gggacaccct gaagtttcga 180  
 aacgaaacaa gatgttttct cttgtttcct ccagaggccc ccatccttgt ggaagggtact 240  
 cctggaagtg accacgtagc agagttgaaa ccaattgaag gtgaattcag tgttacaaaa 300  
 agaagagttg gagcacatta taataccgat cttacaacca ttcttagcgc tttgggcgct 360  
 acccacctga ttttggaag tgttt 385

<210> 3258  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-064-Q1-E1-F2



<400> 3258

ctcagatact actatccgac cacaggatga cgaagtagtt gcaatgataa aagagttggt 60

ggagacaaga attaagcctg cagttgcaga ggatggagga aatatattgt atagaggatt 120

tcatccagat acgggtattg tcgatttga gttgcaaggc tcttgtacta cttgtagttc 180

gagtgtagta acgttgaaaa gcggagtaga gaatatgctt atgcactata ttccagaagt 240

caagggtgtg agagaagttg taagtgaaga gagagaaagg atggaacgag taagtagaga 300

gcagctgcaa agtttgaac aaagact 327

<210> 3259

<211> 328

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-F3

<400> 3259

agcccacgcg tccggtgaaa gtgacagcga cgagagttgt gccagtgcg acaagacgat 60

gaaaccttgc accaagagac ttgcttctag aacaaaagt atgaagtgtt cgaattgcgg 120

ttcccatact ttgtttcctg tggacgatga agaagagtgg agcaatggcg cgctgcagga 180

ttcgacggat agcgatatta gtacttatat gcctctcaag ttttgaaga tactgaatag 240

tggtgaaggt cgagatagcg agaaattgtt taggtttaaa cgaactcaag gaaattgtgt 300

cggaggcact gtccaataag actcgcca 328

<210> 3260

<211> 333

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-064-Q1-E1-F4

<400> 3260

acgcgtcagc taattgtana agaattgaaa ctttcgagtg ttttgacaga aggcgaatat 60

cgtctgtttc agtggatagt ttttcttga gggtcttttt atggtggttg ggtgcttttag 120

tctgagcata agaatagtcg actttatgcg gccaaaggaag aagcttttat tgctcaagaa 180

aggaacaaag aaaggcccat gagtgaagaa tactggagag aattgcaaga aataaaacct 240

agaaatttgg aacagttgta caagatgaag caagaagacg ctgcaaatag atcagaaaaa 300  
tatcaaagggt ggaaggaaaa cctacttggt tta 333

<210> 3261  
<211> 324  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-064-Q1-E1-F5  
  
<400> 3261

agcgcatttt tacgcattgt tggttgaaac gatatggcag agaagttgac agagatcaag 60  
gataaagttg ccgataaaat aagtgaaatg actggaaaca agtcatctca ggaccaggcg 120  
aaggataaag ctacgcaggc aggggaccgt atgaaggatg caggaagtgc tatgaaggaa 180  
agtgtctaaa atgcagggga cgccgtcaag gataagatgt ccagcatgaa ggagtctgtt 240  
tccaacaaat cggaagggtg gaaagaagggt ctgcaaaagt agatactccg aggttatctc 300  
atttgtttcg tcttgtttgt gttt 324

<210> 3262  
<211> 345  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-064-Q1-E1-F6  
  
<400> 3262

acgcggacgc gtgggtttgt ggttgctgtt ggtgatcgac acgaaagata ttatcgtgaa 60  
ccaaattcat ttatatatca ttggagaatg actcccaaaa aggaaacacc gcatactccc 120  
aaaggaggct atgcaaaagc tgtacttgat agcattgttg ctctgaagga gaggaatggg 180  
tcctctccac aggccatcat aaaatatgtc aagggtcaca atccgcagct tccggaagac 240  
aaacttaaac ttcaactaaa gttagctttg cgtcgtttgt taaagcagaa gcttattgag 300  
aagtgaaag cttcgtataa gattgctagc aagagtagta gagtt 345

<210> 3263  
<211> 320  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-F7

<400> 3263

gttggttcga cgaccacagt gtgcagttgg cagtcgatat atttcgagta gacagaaccg 60  
tgtgagtatt ttgaccaggc ggaagaggga aaacttgggg aggtatagac acctggggac 120  
aacgactggt tgtttgtctg acgtgccaaa gaataatggt ggttatgaag gagatggttc 180  
agagtctagg gagaatgtat cacaaaaaag ggatagaagg aaaatagcgt caagtgaaga 240  
agaattggca gctctacaga ctttgtcttt agagggcttg ttgagttatt acgaggggaac 300  
tcccatgttt tcggaggaag 320

<210> 3264

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-F8

<400> 3264

gacccaaacg taagcccacg cgtccgcca cgcgtccgca tcggaatgct gtcgctattt 60  
gttggaact ggtttaacag caatacagga agaattggaa tgggaaaaaa acattgcata 120  
gctaaaggta tcctctctct ctctctctct cataggacga gtgatatgag aatatataca 180  
atatatatat ttgttggttag aaatgttcaa cttgatgttt ttcctcgcaa tagagaacaa 240  
caaacaaggg gcacaaacaa ggtttccatt gcaagatgtg tttgcagtat ttgtctctcg 300  
cgggtgaaat gattagttgt tgtcgtcttc tcttcctatg atttgagagt gatgatgatg 360  
attgttacgt gttgttgttt ggtgaaggag taataaatgt agcttttgtg atttgcatgg 420  
atg 423

<210> 3265

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-G10

<400> 3265

gacccacgcg tacgcccacg cgtccgggaa aagtcgacgt gaagtggagg aaattttgtg 60

tttaatggaa tctgatggaa tagagccgga tagagttact tataaacacct tgataaaggc 120  
 atatggctac atgcgtcggc atgatctcgc agaagctacc tttaagcaac agatttccaa 180  
 gtttggaaccg cagttgggtg gctttaatac cctaataaat ggatactgtg aagactaaaa 240  
 agtttgctcg tgtcttggaa ctatttggc aactcaagga attgggtttg aaaccagatg 300  
 ttaaaacgta ttctactatt atcaatggac aaatattgtc tgggtgagaat tcactctacag 360  
 tcattgtgttg gtatcgacag atga 384

<210> 3266  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-G12

<400> 3266  
 gaccacgcg tacgcggacg cgtgggtcca cataatgata tgaccacctt agaaaagttg 60  
 ctggcagaaa cagtttcgaa tgatccatt tcgggtaaag tgacacaaag gagatttattc 120  
 atcgtggaag gaatatcaag caagtttgcg gatgtgacac ctttggataa agttgtggaa 180  
 ttgaagaatc agtaacgttt tcgattgaat gtgggacaaa gttattcggtt ggggtggtcac 240  
 aaggaaaaca ggtcgtggaa ccttagaaca ttttggattt ggaaacaaag atgcagatat 300  
 tgttttggca gatctgggaa atgctattgc aactgtgggt ggattctgct gtagtagtga 360  
 agaagtagcc aatcatcaac 380

<210> 3267  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-G3

<400> 3267  
 agccacgcg tccgcgagga gagagagaga gacagacaga tggccaacgc tggtaagat 60  
 ggccttgtgc aagtcaacaa acatagaaaa gtaaacagat tgcaagaaga taatattttg 120  
 aatagagcac tatcacaacc aggaggtaaa gtacagaaaa ctatccagtt atccattcat 180  
 agagtctatt agatgtattt ctgtgctttt gcaacatcca gttgttgggtg aatgcagaaa 240

gagctattat aggaaatatg tacgtgtcca gaaagtatcg aagtgtgtcg tctattagct 300  
 ggacatatag cagtttggtt cgatgaacat ttgggtgact ttcggttggg agcgatcttg 360  
 gg 362

<210> 3268  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-G4  
 <400> 3268

ccacgcgtca gcccacgcgt ccgagtgaag ggacgcacgc catgtcgagg agcaatacgt 60  
 tgcaacaact agtcgacttt tgtacacgca atactttggt ggataagaac aaccaaacag 120  
 gaacttgat ctggaacgaa ttatctaaat gtgatatt atccaggga gatcctcttt 180  
 ttggttccgt ggactcacgc gcagtacagt actggttga acaagcttgg aaccaagaca 240  
 agagtcaact tttagaatct gtcaacaaac acttgtctaa taagacttag ttggttggag 300  
 aacgacttac tattgccgat atagcagtgt acactggcct ctattccact gtccaacaaa 360  
 tggtgtc 367

<210> 3269  
 <211> 316  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-064-Q1-E1-G5  
 <400> 3269

aacatgagga agaaagacgc aaatacggga aagcagtaaa agaagaaaga gaaaggaaaa 60  
 aactgagtat cacgaagaaa agaggagtc gatgacgaaa gaaagatcaa ggaagtaaga 120  
 gtacgagaag gactactgtg aatgaaagca ggaaagtatt tgaagaagag agtgtaaagc 180  
 gcgtaccttg tgcacaatgt ccacgcgagt gaaagacgaa gcaaacagac agaataagaa 240  
 gtagccaggt aagacccgaa gctagttgat cttatgccgt ccaagcgaag taacgctgaa 300  
 ccagtatctg tggaag 316

<210> 3270  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-064-Q1-E1-G9

<400> 3270

cccacgcgtc cgagaatttt ggggttgagg aacagtgcaa gttgggatgg aaacgcctaa 60  
ctgtagttca cgattgatac tgctgttttg tttggctctt ataacgacta taactttggg 120  
aaatgcaaaa cgaaactatt ataaagtgcg gggcgtggaa aagaacgctt ccgagagtat 180  
gtggtttagc gttcattctc caagtttctt tgacttttgn ttaggagaaa ttaagcgcg 240  
gtaccatcaa ctagcaagga agtatcacc ggacaagaac ggcggtgaca agaaggcgga 300  
actgaaattt cgagaaatag ctgaagcata tgaagtccta tcagaccac aaaaaagaga 360  
aacgtacgac ttgtatggc 379

<210> 3271  
<211> 328  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H1

<400> 3271

agccccacgcg tccgtgtttc gtcagagatg gacgccgctt ccacaaagga ggaaagaacg 60  
tgcggtatac atataaagtg ggagcaagtg tttgaccag ggaccatgaa aattgacgga 120  
aaattcgcca acgtttggtt ggaaggtttg cccaatctct tcgctgagtg ttcgagaatt 180  
gaagtttcgg agctccttgg agaaagagtc aaggtcggaa acgaagaatt ttttacatgg 240  
gccgaatcac tgagggccgc ctcttcaatt ttgtatccca agaattttgc tgaagacttt 300  
cctttgaagc gttccggcaa tgaaattt 328

<210> 3272  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H11

<400> 3272

agacagaagt tttgggagaa aggtattatg gaaaggtgta taaagctcaa gatattagaa 60  
caaacgaaat tggtgactg aaaaagacc ttttggtaaa cgaagacgaa cgcgtccccg 120  
caactactct gagagaagtt tctatcttaa gagcactttc agattgtccc taaaatcgta 180  
aaactatctg acgttcttca cactgcatcc agaaatggta aacctgtatt gtacttggtgta 240  
cttgaatact tgggacacga tctcaagcac tatatgattt cgaagaacgg cagaggagta 300  
tgactcgata agaaacaagc tctgggtgtgt ttgctgaaaa taaattttc 349

<210> 3273

<211> 383

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H12

<400> 3273

gaccacgcgt acggacgaag aggatgaaga cgaagacgaa gacgagcagg atgaagatga 60  
ggaggaggaa gacgatgagg aagaagaaga ttacccag tctaagagaa agcgatctaa 120  
agactcaaaa aaggaagtgt ccaaagcatc agcaaaaggt catggaggcg gaggtcttcg 180  
tgctgcagcc aacaaaagac gtctgtctgg tgaagagtcg agtgatgatg atgatgatga 240  
aatgagcgaa tccttgaaag acactcgact gtctgattaa agggcacacc gcaatcttac 300  
aaaagttgtg taaggaaaaa gagcagtgcg gccaatatga atttgttttc agcttctttt 360  
atatataaaa gcattggctc gca 383

<210> 3274

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H2

<400> 3274

agcccacgcg tccgctagtc tccccggata gttgtgaata ttccattgga ctggcatttt 60  
tccgttttga agcttgattt agttgcgtcg ctttgtttgc cactttgtag taaataaaga 120  
aaagactcag gagatatctt tgataaagta tggggaacag ttcctcttct agtgcgtggg 180

accttgcac gaatggcaca ctgggacccat attacatgaa ccacagtgtt cccaggagtg 240  
accgtttgct ctatatgacg aatatgtttt cgcgctcttc aagtaataga agaccgcgaa 300  
acagcagggc cagaagcaga catagtactg aagaaccagg gataattcca actcaatttt 360  
atctggatga gagcacgttt ctaaacttga tacagaatag aatagttgc 409

<210> 3275  
<211> 348  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H4

<400> 3275

cggctcggcc caccgctcag cccacgcgtc cggaacaaaa cctcccaaag tcagagaaac 60  
cagtacagta gcagttgatg atttgaagcc ttggaagaga gaagacgacg atgatccaac 120  
tttatcagaa ataggtcaaa agaatttgca gcagcagcaa cagaatgctg taaataatat 180  
gaataataga aaggataaca agaacaagac agtagatatg accaaagagt tttttaggga 240  
gcctccaaga cgtggaagag gaggaatatg tcgcggtatt ggggggaata ggagaagagg 300  
aagaggaaaa accggtcctc caaatacttc caataataac tatcgacg 348

<210> 3276  
<211> 139  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H6

<400> 3276

atattctatt ggactggcat ttttctgttt tgaagcttga tttaattgcy tcgctttgtc 60  
tcgcactttg tagtagatac cgaggcgagc caccagtata tctttgagaa agtatgggga 120  
acagttcctc ttctactgc 139

<210> 3277  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-064-Q1-E1-H9



<400> 3277

gacccacgcg taagaaaaaa tgttcgtgtc ttactccgta cctgcaagaa acttaccggc 60  
tttggcacgt aactttttcca atgtctgtct ctcgaggagt ggtctgagag ggggatgttt 120  
acgaaatgtg aaagttttca accacaaacg acctgcaagg ttgttatcta cgaaaatgag 180  
aggaggcgac catgaaagga gagaacttag tcgtcctatg cgtacgcttg atttaccgct 240  
ttcgacgaac ttttagcttt tgccgaggat ccctgggtcca tgtttcgctc tccatggagt 300  
ctgtcgccca gaagtatggc agtagacacg tggatgcctc gtgttgactt ggtggagaag 360  
gaagatggct tttatgcata cgtggaacta ccaggact 398

<210> 3278

<211> 269

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-A1

<400> 3278

gcgtccgccc acgcgtccgc ccacgcgtcc gcgaagaaag aacggatga cgtggacagc 60  
gatagtgaca tagactcgga gtggagtgcac ttggaagata atgagaccag ttgtcccgag 120  
caagttgggtg cggttgctgg ttcttctgtc gtgaaaagcg gcatttttgt gtagagagtg 180  
tgtacagagg tttcatacca gccgtgttca attgtgggtg gttggtgtac ataaccatct 240  
acgttttggg gctgtgttgg gcctacttt 269

<210> 3279

<211> 378

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-A10

<400> 3279

agcccaagcg tccgcgagc cgtgggcaca acttggggcg atgacaacaa cgagcaacaa 60  
cgctttgtca tcttcttctt cctccaaaga aacgcataac cttgtagaaa caaatccttc 120  
tcaaacagag tggagaatat ggaaagctca aaagaaactc ctagtagcct ccattctttg 180  
tgcgttgttt atgtttgctg aaatattggg aggatacttg gccggttctt tagctattat 240

gacggatgct gcacatttac tttccgactt tgcaagtttt gttatatctc tggttgcctt 300  
acaccttgcg aaacgtcctg gaagtactac tatgagcttt ggttatgctc gagctgaagt 360  
tattggtgca tttgtgag 378

<210> 3280  
<211> 313  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-065-Q1-E1-A11  
<400> 3280

gcacgcgtca gcccaagcgt ccgcggacgc gtgggttttg ttgttttctt ggtagcagtt 60  
gtacattcaa catcatcaaa tgccaaaggg aggaaagaaa gattcttcaa agaaagaagc 120  
cacaagtaaa cctgcagcag cagatgctac aaagacgaca gaaaagtctg gtccggaagc 180  
caagttgaag ggaactgggtg caaagaaaca ataaaaagtt gactatgcat gttcctgtta 240  
tgttttgtga gttctgtttg atagtttcca gctattcttt tggtagtgaa taaagagaaa 300  
attttttata ttt 313

<210> 3281  
<211> 370  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-065-Q1-E1-A12  
<400> 3281

agcggacgcg tgggcgacg cgtgggacg aaagtaattc tgagatgaat gatgatgttt 60  
accattttta tgaagaagaa gaagatgaac aagctgaaag agctagaagt agtcttcgac 120  
gttctttctc acctattgac gattctgaca attttaactc gtcggaagat attattccag 180  
aagatgatcc acgtatgaca gatgaaattg gtgaagaaag ggatcgaatg tttgatgatg 240  
ccgacaaaga aaatactctt ctttctaag acatgatgaa tcttgtcaag gacgcaattg 300  
acaaggcaac ttcagaaaag atgagtgaac aatgttcctt tcgagaagtt atgaatgtgt 360  
tgacaaaca 370

<210> 3282

<211> 111  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-065-Q1-E1-A3  
  
 <400> 3282  
  
 ctcagtcttc cgttgttaac acagagccac ggtgatgtca aggggacaaa agacagttct 60  
 tgaaaggacg atcatctacg agaaacccga cttactccaa catcgttcat t 111

<210> 3283  
 <211> 324  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-065-Q1-E1-A4  
  
 <400> 3283  
  
 agcccacgcg tccgtttttt ctcttacaaa tgtggaggag gatgacgact gtgagcactc 60  
 gtgtcatcaa gtacaactgg aaagccctgt cttgtattgg aaagcagcaa caacaaccaa 120  
 cacaagcctt ttctagtgtg caaaaatttc aggaagagtg gttaaagttt ctagtatgtc 180  
 ctgtttccaa acaaactttg tactatgact cggaacgcga tgaattattc aaccaatcga 240  
 taagatatcc agtaagtaca agtcatataa aatgctttat tttctatcat tgaaaaacaa 300  
 gtatctcttc cttgaagcaa acaa 324

<210> 3284  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-065-Q1-E1-A6  
  
 <400> 3284  
  
 gctaagaatc ttgaagaatg gaacgaaata aaaatcattc agactcgagt tttcaccatg 60  
 aaagaacaga aacaactgaa gtagtcgacgt cagtcccgac ggaaccttgt atgggagagt 120  
 tgcagcaact tctttcagtg acacttgaaa gaagccattt ggacataagg aagcttcaac 180  
 aagcagcgaa cgattttcgt ttatgcgcaa agacgtttta aatatgtgat gtgaagttgg 240  
 aacaaagttt tctcaaaaag tcaagtgatt agacaccctc atgggtttttc attgaaataa 300

ctggttgctc ttccttgagg caacctatctt attacgaaaa tttcgtgcac cttctcttac 360  
aatatgaggg ttccttctgg atatggtgag ttttcattga nagttttggt ggggtgcc 417

<210> 3285  
<211> 213  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-A7

<400> 3285

ataaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaagaaaaaa aaaaggaaga aaaacaaaaa 60  
agataaaaga ttaaataaac gtgaaagcac agctaaaaac tcggggaggg tgcccttgaa 120  
ggttcaattc attggtccgt cgctttacaa ggtcggccct gttcaaaggc ggccgttact 180  
tacctttcac ggccgggcgt ttacccccct ttc 213

<210> 3286  
<211> 391  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-A9

<400> 3286

agcactcatt tgtgtgcagt tcgaagtgtg gcaaatgagc tctccaaga cagacgttaa 60  
taagagcagt gacgaaggag tgaatttggg tccacttgca gtaacaagtg gccacgaaac 120  
gagagatttg aagggaacta cgtctgcaag ggcccgaaga atgagtatgg aagagagaaa 180  
tcttgttctt ttaaagagga agctaagaaa cagagcgtct gctgttcgtt ccagaaaacg 240  
ccgcttggaataaattgaga cgctgtacaa tcaagtgatc gaactatctc acttggcttc 300  
acgactggag gagcgacttc gagtggtaga gagacatgga cttactactt tgcaagacag 360  
ttgcgtgaac ctatcgaata agaaaacctt a 391

<210> 3287  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-B1

<400> 3287

atcaaactac attgcatgt gggatgcgtt ttcaataaat gttgaggaat tactatccga 60  
aatttggttag cttccttcaa tataatcatca caccctattc ctcgacaact ccaacataag 120  
cttctacaag tcacaaaaag gttctttcca cgggtgcaga agaattcggc ttctgtaagt 180  
gcaagggtgc ttatttccat ggatataaaa gataaataac ttatgcaaata aacgccctac 240  
tattttacaa gactgaaaat cgtggttagcg ggtatcgact gactaagggt tgatacacga 300  
ctattgggct tgcgtaacgt ttgctgagct tcacaaaaat cgactagtcc cataactactg 360  
tctggtactt ttgtgcttct ccaaac 386

<210> 3288

<211> 400

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-065-Q1-E1-B11

<400> 3288

acgcgtcagc ccaagcgtcc gccacgcgt ccgcagaaga gaagctttcc gaggagaatt 60  
ttgtctgcaa tagtatgaag caagtcgtga ctgacacaat agacttgcta gaaagagtag 120  
agcagagatg catagaatgg gacaaaaaga cagaaaagct ttcaggagga gtgaaacaag 180  
aatatttgct gtttttggtg ccttttgtgt atcagcgttt tctcgtgtgt ttgtttactt 240  
ggaacgctct gttgattgaa tgttttcatt ctaatttctt tgtagtcgaa accattcgag 300  
ggtttggttac actgactgtt ggtgccccctg ttttagctct tgccgctagt ctttcgtttg 360  
cgcattatta tcgacgcana agtatgccga tttttgcaaa 400

<210> 3289

<211> 397

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-065-Q1-E1-B4

<400> 3289

gtggaaagat tctgtcgtgt atccaatgtg gagagcaagg gctgtgtgct ttattccaga 60

aaacattccc agactctgaa attcgcattt ttccaagtaa agccctgtcc atgactgcgg 120  
 tctttctctt tctctctctt tcgagagatg ttgcagaaat actccaactg aaatgttttc 180  
 aaaggcgggtg catgttttca ccaacgtttt cccatttgga gtttccaagc ccgccatttc 240  
 ttctacgcac ccttttctta ccccatTTtg tgtctcttac tcaccaaggc atggcggggt 300  
 tagaagactt ttatgacccg acttgTgggtg cagaatatca naatatagt ccagaaaaaa 360  
 aggaacctgt agaaaacaaa ccagattcta ctcgaaa 397

<210> 3290  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-B6

<400> 3290  
 cccacgcgtc cgcccacgcg tccggcctgg ttgaagagta ttactcgatt acctattctt 60  
 gtgaaaggag ttgttactag agcggatgca gaaattgcag ttcgtaatgg agtagctggT 120  
 attattgtga gcaatcatgg agcaagacag ttggatactt ctcttgccac tattgattgt 180  
 ttggaagaag tagttgcagg tgcacaaggc aaagtTcctg tgTttgtaga ctctggagta 240  
 cgTcgtggta cagatatagt gaaaagTttg gcactTgggt ctcaagctgt acaaattggT 300  
 cgTggTgtct tgtggggTtt agcagTtggT ggggaagaac gtgtggatct agtgttgaag 360  
 ttgcttctgt atgagtctga gttgggactg ggaacttgtg g 401

<210> 3291  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-065-Q1-E1-B8

<400> 3291  
 cggacgcgtc cgcccacgcg tccggccacg cgtccgcgga cgcgtgggca ataactgacg 60  
 aaaagaagaa tgttgcgTtg gtggagaagg agcgactgac tgctgacgaa agaatattag 120  
 acattgtgcg tgactaggaa aacattatgg aaagtgctag tcaattgtat ccagaaaatc 180

ctaagaaaaa tattctcctg gttggcactc caggaacagg aaagacaact cttgcaaaga 240  
gaattgctgc tgtcacttcc ttgacacact tggaagttgg aaagtttgct gaagagcaca 300  
actgtttggg ctgttacgac gagcagttag attgcttcga aatagaggag gagaaactta 360  
ttcctttgct ggtaaacgct ctganacctg gaggctttct tgtggagtat catgga 416

<210> 3292  
<211> 190  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-065-Q1-E1-C1  
<400> 3292

ctgcatcaga caccgagcgg tgttgggtgt tgtttgtgga gacaacacac ttgacataac 60  
actgtataat aatgtatgtg tttgtagcag tcagcgtgtt gataacgata aactattctt 120  
tgcatatgtt tcaacatgtg ctgcaaatg ccgtaattaa gatcaccgga tcaacgaacc 180  
cccctatggc 190

<210> 3293  
<211> 410  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-065-Q1-E1-C10  
<400> 3293

ggtcaggaat aacgggtcgg ccacgcgtca gcggacgcgt gggcgagaac gatgcttata 60  
ttatggtaga tatggcacat atttcagggt tagttgcagc aaaacaagtt ttatcgccgt 120  
tttcttatgc ggatgtggtt acaacgacaa cacataagag ttacgtgga ccaagagcag 180  
gtatgatatt ctatcgacgt caatgtcttg cacaagttag acgaggagaa gatttggagt 240  
cgttgattaa ttctgcagta cttcctgctt tacaaggagg acctcataat catcagattg 300  
cagcacttgc agttcaactt gcacaagtaa atacacctga attcagagaa tatgcgaaac 360  
agatcatatt aaatgccaca gctttggcga agtacttgag ttcgttgggt 410

<210> 3294  
<211> 380  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-C11

<400> 3294

agccccacgcg tccgagcata tgaactgggt tgcaatttat ttgataacgc tgaaacttat 60  
gcagctggag cagcagagtc tatcatgggg gaggtttttc atcgaggtgt aaaggagggc 120  
gtatggacaa gagaagactt ggtgttgact acgaaaatat tcttcggcgg aagaggttca 180  
cgggactgca agcctcgttg aagcgtatgc agttggatca tgtagatgtt gtgttttgcc 240  
atcgcccaga tccacttacg cccatcgaag aaacagttcg tgcaatgaat cacgttattg 300  
accgagggta tgctttttac tggggaacta gtgagtggtc tgcacaagaa attacagaag 360  
cttgtcgagt tgccgatgtc 380

<210> 3295

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-C6

<400> 3295

agtttggacg aattattgcg caatcgatac gtcctaaatg tcacgagggt ttgggctgta 60  
ctcaattatg acgaggtcca ggtaactcac tcatctgacg gagtccctag agatatcata 120  
gaaagtgaaa tagtacgtat tccagccgct caaaggcctg cagatctttt ctttttgaga 180  
gaaaattcgt tgttcaagtt ttggcatcgt gagttgatgt ctcaagttat tcatcatgca 240  
cagaaacgtc gtcgcctcat catggccgag catacgaaag ataccgcgaa acaaccattt 300  
tgctcgtgta tgtagtagtt ttgctttggt ttgtgtagta gttagttgtg tttcagcgga 360  
aagggcacgt tttcttctca ttatggacat gagaacatag atgttttgt 409

<210> 3296

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-C8

<400> 3296



cccacgcgtc cgcccacgcg tccgagtaag tgcgcttggc agcaaactaa aagatggcaa 60  
 gaagaatcat cggagcttat atgtctgacg ctactgtagc gtctctatct agcgtgaaaa 120  
 tgttgttcta ccttacaata cttgcgttct ctatcactat tgtgggtctt atgggtaaga 180  
 gttccgacgg tatttgggtt cacagtgttc cagcgaaaga cgaatattgt gcatacaagt 240  
 cttcccttca agtaaaccac cacggcatag cttcctattg caagtatatc atggctgtag 300  
 cagctattgg tttggttatc agcttcttcg agttttggta tgcattcctc ggaattttct 360  
 tcaagtggca acaaaagtgt tggatatatt aatctgctat caacgtgttt t 411

<210> 3297  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-D12  
 <400> 3297

agcggacgcg tgggtctcga agcaaaaagc cttgaattgc ttctcttttc tcgagggttaa 60  
 tatacagttg ttgagtaaata ttaccgttgt gtcttatgat tttcacatta cgctgtagtt 120  
 ttattaaagt tattgtcaag agattatgaa gctcaatgac gaaaaaaaaa atagtttgtt 180  
 gacacgtttt ctccgagcga attttttttt gagtgaggat tacaagttga agtagttgtg 240  
 gttgtctcaa gcttttgccg gtttcttggg atagaaaaac cgtccattct tatcttgttt 300  
 cctagaaaaa gggtcacagc gttgtgagta tcattttcaa gcgacgcatt gttgttttgg 360  
 aaccaaaagt tattg 375

<210> 3298  
 <211> 289  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-D5  
 <400> 3298

acgcaacgcg tccgcccacg cgtccgatta cgtggacgtg gcagcaacat attttacggc 60  
 aatatgaatc aactaagcca agtgggtctca cacgtaggta ccgtgcagaa gaaacccaag 120  
 aaatatcata caacacatgg atgatctttc caacctgacg aaaatgggtg atgtcatagc 180

taatgtatgg ccaatcagct atttcgagtt acacctaagt tctggacgca tcaatgacaa 240  
 tgctcaatgt cgcataattag attcctggaa ttaggcatca cttctaatt 289

<210> 3299  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-D6  
 <400> 3299

aggggcaacc aactaccacc aaaagtagca actgcaagga agaacagagt gtcctaaaga 60  
 atagcaagtt gtgatgagga gaattggttag caaactcttg tcttattccg gcaatgaagt 120  
 aaaacttcgg gatgttgttt cttctctaag ggagacgagt aaagcgacgg ggtcttccat 180  
 ccggagttgg cttcgtgata tcaaccagtg gtatgaagac acttactata aaaagggaaa 240  
 ggtggatcct ttggtacatt atatgttact ttgttttga gtgggatata ccatcaatta 300  
 ctcccatatc aacataaaag tggagcataa gaatgacgat atcgaaagct tgtaaacgtc 360  
 acctttgttg tgttgttggg gat 383

<210> 3300  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-D7  
 <400> 3300

agcatgttcc ctttcagctg agtgtactgc attccataga gcaactccac tttgcaaagt 60  
 cttcgagtcg tcctcttccg tttcagactt tgcattcgtc ccgtcctggt gcaatctttc 120  
 gcgaaccatc gataatatag aatcccgggt tcgtttctct aacttttcca acttcttttc 180  
 caccttcttc ttcaaataca agttactcac ttgcgggtata aggagactct aaaaaacgag 240  
 attagatatg aacgacgaac gataacctat acttacgaca ttttcttttc ttttcttttc 300  
 aaattccttg atttcttctt ggaaaatctc gttttgctct ttagtcactt tcgttactat 360  
 ttcctcaggg tcgacaaact ttcgtaaaac taag 394

<210> 3301

<211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-065-Q1-E1-D8  
  
 <400> 3301  
  
 gaaagtactt tggtaagaga ttgcaatagg tcttgcgacc agataagtaa gcgtgtgtgc 60  
 atgagtgaaa agacatccga gcacgaagag aatgtaggta aataggatag gactcgaaat 120  
 cacagtgtaa cgagagtann aggacgcaga gatctagaaa gagagaatgc ctgaggtgtg 180  
 agtactcgag aacaagggtcc agggaagtag aaggtaacaa tgaggaaaag ttacaatat 240  
 aaagggatat atggaacaga gtgtaaggct gcgtcactact agaaatccga taggagtaga 300  
 gaatgagaga aagttgtggg aaaagaacat aacagcagta ctgaggaccg actcaggtac 360  
 t 361

<210> 3302  
 <211> 197  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-065-Q1-E1-D9  
  
 <400> 3302  
  
 cacgcgtcag cccacgcgtc cgcggacgcg tgggctcatg ggaagggtgc atggcacctt 60  
 caatttggtg gtttgaaaat aactacgaaa tagtattcag cgcaagtttt tacgatacaa 120  
 gaataaacat tatgtgttat acttaaaaaa aaaaaaaaaa aaaaaaagaa aaaaaaaaaa 180  
 tgacgataac acaaaaaa 197

<210> 3303  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-065-Q1-E1-E12  
  
 <400> 3303  
  
 agggtaaaca tgtggaaaag agcaactgtc ccaacactag gaagaatata ttaccctaag 60

cggttggttag aaacttttgc caagaaagaa acaaccaagt tgccagttgt tcacaacttt 120  
 gtgggaggaa aatttgtggc aagtcagggc cctattagcc agacagtgc caatcctgcc 180  
 actggagaaa gccttcaaag cgtaccttcc actaccaaac aagaagtgga ccatgtagtg 240  
 caagtagccc aagaagcggt tgaaagctgg tccaaaatgc ctatgggaag gcgtttgaat 300  
 tacatttttc agttgcgata gggagtcang aaaagatccg cggaaattgc ccaag 355

<210> 3304  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-E6  
 <400> 3304

ggagaaaaag acgaagactg ttggtggctc gatgagtaca acatttcttt gtccattcct 60  
 acccaaaactc aactattgga aaccactttg taataaaaagt aagtatggga gaatgacagt 120  
 ggacaaggaa aggaaagaac ctacctctc ctaccagca gagtgggaac agcatcgtat 180  
 cgtccagtcc aacttgtttc gtcaacaagt agaaaccttt ttgcgtccta ttccaaagga 240  
 tgtgcaacaa agaatggaac gaattgcgga agccttgta ttacaacctc aagacacgtt 300  
 gatagatgtg ggttggtgga caggagccat ggtacctttt attcacaagt atattccttt 360  
 atctcacatt tggttgtgtg actgcagtga agccatgtca gaacaagcca agaaaaggt 419

<210> 3305  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-E7  
 <400> 3305

acggatggaa actctggaac agactcctag tcttcaagca gcaaacagga tcaaccaact 60  
 gctagaaact caaacaaaaa cgatagaaaa acaaaagaaa aagatacaat atgaagtttg 120  
 gaacggtgct gagtggacca acaacagcaa tctagaaaaa atagcatgcg tcttgacaga 180  
 gtgtgaaact cttttgaaag atatgcaagc gtttcgtcga tgtatttatt cacaaattca 240  
 aaaccaccag acggaaacat gtttcattcc tacacagttt ttcgaagctt ggtctgcttt 300

gatgaaggaa ttggaggaat gtcattctgcc gcctttgctc gaacatttgg tgacgtatga 360  
catgtccaaa caaccattcg atgaaactct acagagactc gaacgttgtg taccct 416

<210> 3306  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-065-Q1-E1-F1  
  
<400> 3306

agaattgctt cagcttgaag atgaactcca acactacccc taatccaatg gaaatagagt 60  
cactagagac taaccaagaa agagaaacca acgccccaga agtatgggaa gaagaagaag 120  
aggatgaggc aaccaagaaa gatgatgggt cgacaagggt tctcaaggta tttgcgggtca 180  
tagctgggtg gggctccact ttcttcggag tagatacttc agttattgga ggtgcagctc 240  
tgtatgttca acctgacttg agcatttctc ctttgcagtg gtcattggatt acttctgttc 300  
cacttttggc agcatgcttt ggtttaggaa cctccatacc cctttgttac cacattggga 360  
gaaagtatgt tgccttttta gctgctgttc tatatcgggc tgggtgcta 408

<210> 3307  
<211> 205  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-065-Q1-E1-F10  
  
<400> 3307

catcccgctg ggacatttgg cgttttctag cgacgctggc tatctattct tcggtgcaca 60  
ctacattcac caagtacctt ccatagacca tctcactggg gtgggtttac tgggtacattg 120  
tgtacttgtg ggtagtgtg tgccttttgt ggttgtcacc ctatggttga ctccacgcac 180  
ggatcatcac attcgtcaac atgtg 205

<210> 3308  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-065-Q1-E1-F3

<400> 3308

agcaagcgta gagcagaaga actgggtgta aaggctcgagt agtagagtaa gtgtaaaagg 60  
gaaaggaaaag gagagaaaaga ggaagggat gaaatgcaga gatctctaga gaaaggcaag 120  
aaagaaaaga aaggaagaca cagtaaatga ggcgagaaaag cataggaagt gaaacggatt 180  
aggaacccgt gtagtctatg cagtaaaaga aagaatgagt aagaaaaaag ggagtcattc 240  
caccagggga gtaaaggcgc aagaaagaaa ccaaagcaa ttgacgggaa tcggaaaaag 300  
gggtggatca cgtaaattaa tccgatataa accgagaacc ttacctctcc aagaagggtg 360  
tgcacggctg tcgaaagaac gtgctgtgaa gtgagagaac gtacgagaaa gccaa 415

<210> 3309

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-065-Q1-E1-F7

<400> 3309

aggtccaaac aagagaagtc agcagtgggg aaaattgggc aatgtacaag gaagtatgac 60  
ccagtaatga ngagtggagt aaacagaaaa ggaagtaaaa ggagggaatg aanggaagtt 120  
atggcaaaaa cacgtgccag cagcagcggg aaaacgtgtg tagcaagcgt agagcagaag 180  
aactgggtgt aaaggctcag tagtagagta agtgtaaaag ggaaggaaa ggagagaaaag 240  
aggaaaggga tgaaatgcag agatctctag agaaaggcaa gaaagaaaag aaaggaagac 300  
acagtaaagtg aggcgagaaa gcatangaag tgaaacggat taagaacccg tgtagtctat 360  
gcagtaaaag aaagaatgag taagaaaaaa gggagtcatt ccacca 406

<210> 3310

<211> 336

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-F8

<400> 3310

cttagaagca gcaaaccaga gaggaaagcg ttaaagcatg aaagaaaaga aatccgaaaa 60  
agaagagaaa aaggtaagaa agaggaccga atcagggtaa gaggtagagg agcaagaaga 120

gaagagagaa tgctgggtgg agtagcgaaa caagagaagg gaagtaaaag gtaagaaaga 180  
 ggaaagggttt acgagagaag gaagtagaaa gaagagagtg taaggcggcg tcataataga 240  
 aatccgaaag gagtagaaga aaagagagag aagaaagaaa agaagagaaa agccgtactg 300  
 aagaccgaca caggtactcg aggagaaagg agaccc 336

<210> 3311  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-G12  
 <400> 3311

gggtcggcca cgcgtcagac cattgtcata tatgaatgat caaagtttct taactggacc 60  
 acttccaaaa gatattcata gtattgccta ttctcgtctc attttacagc gcttgggaagc 120  
 gaaactgggtt gctaatttgg caaaggaaat cgaaaagcgt agtaaacaag gcaaattcctc 180  
 gtttgaagtt tggaacgaat gtttagactt ggctgccgaa gttggaagag cacatacgga 240  
 gttgctaata gcagaacttt cggaacagtt gataacaaga gctagtgcta ccgattcttc 300  
 tgtcggaaac attttgaaac agtgtcaaac gctgtttctt ttacatttga ttgacaaaca 360  
 gtcgattttc ttgcgttata attgcttacc tcct 394

<210> 3312  
 <211> 79  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-G2  
 <400> 3312

gtggtggttg tagtgctcca aggagtcaag taactcgtgt ccaagttacc aatttggcac 60  
 tcggtgttac caggaagga 79

<210> 3313  
 <211> 375  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-065-Q1-E1-G8

<400> 3313

agggtcaag gggaaagcgt ctcgtgggaa caactgttgt aacacttcac cgagcagttt 60  
tcgttacgtt ctctgtcgta tagcatgctt tttggagctg taatataacc aaagaacatg 120  
gcttgtagtag cagacgagcc ggcaggttgg acaccgagca ccgaagcagc gcaaactcca 180  
gtggacaacg actgtcttgc cccttcttcc caccctctt cacttcctt gcaagtttgt 240  
actataagat tcttactatt ggacagtaac gactttcgta ttgccttccc accggaaacc 300  
actatattgc agttgaaaca aagagttctg gaagaccaac cacaagcttt tttgaacttt 360  
ttagaacaca acaga 375

<210> 3314

<211> 361

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-G9

<400> 3314

agcccaagcg tccgtgacga cgcaatacaa atctatcaag aacagccttt tggaaagact 60  
gaaacacttg aaagcacaaa agaacaattg cttccgtctc gagatatagc gtgtagtgat 120  
tcagaagatt ctagccgttc tgaacctttt accttggttag ctactatcct caacgcacat 180  
gaaggtgagg ttaattgtgt gaaatggaat ccacaggatg gttacgtctt cgcttcttgt 240  
ggcgtgacg gtgtaataaa tatttggcag ataagtataa actaattctg actttcggac 300  
aagacgcgtt gttcactagc cgttgtcggt gttctccata ttgttattta ctgttcgtgg 360  
g 361

<210> 3315

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-H10

<400> 3315

cgcgtcagcc caagcgccg aaaggagacc caaattaagg tgagagaatg gacgataagg 60  
aactaggcaa aaggatatgg tatctgcggt agaacatatg aaagaagcag caccgactgt 120



ttagcaaaaa cacagcactc tgcagaaaag agaaaatgta aagtatagag tgtgcggcct 180  
gccaaatagt agagaaaaaa tcgatgaaag tgaaagcgag taaaagatga ggtatagaga 240  
atggcggtcc taactgtaag gatccaaagg tagcgaagta aatagacgtt tgaaaggcgt 300  
ccagtatgaa aggagaaacg agtgtagcac tgtctagtcg tccaactcag cgaacagca 360  
ataactgtga aaatgc 376

<210> 3316  
<211> 182  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-065-Q1-E1-H11

<400> 3316  
taaaagcaac aacaaccgca atgcttatcc ttgtgattta ggaaaacggt ttcctcacta 60  
gggcacgaag ttgcatanga atatgtcgag taacanagaa gaaataaata aactaagtgt 120  
atttgttttc gaagaagaag cgtattctgt ctctcttggt gcttctttgc aagggaacaa 180  
gt 182

<210> 3317  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-065-Q1-E1-H12  
<400> 3317

cgcgtcagca ataattgtcg ttagtggttc aaagccaaaa gcagttgagc acagcaatat 60  
cgatatgtca agtggctgga ataactacag tggaacggaa ggtaatggga atgctggtgc 120  
tggtcaaggg aagaacaagg ataagaagac tagtgagaaa cttgcaaaag atagtttaaa 180  
gggtttggga atggcagcct tgtcagcggg taagctgggt tatcgcggtg gcaagtgggtg 240  
tgtggataag gtggaaggcg ccattgacga ccacaagtca taaggaagta agagtggcgg 300  
tggtggaaat tcacgttatt ctcgttgaaa cgtaataacg tggatagaaa cagaacgaga 360  
cgggttttta tagttgttgt gctggat 387

<210> 3318  
 <211> 370  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-065-Q1-E1-H3  
  
 <400> 3318  
  
 ggaagtagaa agaagagagt gtaaggcggc gtcataatag aaatccgaaa ggagtagaag 60  
 aaaagagaga gaagaaagaa aagaagagaa aagccgtact gaagaccgac acaggtactc 120  
 gaggagaaag gagacccaaa ttaaggtgag agaatggacg ataaggaact aggcaaaagg 180  
 atatggtatc tgcggtagaa catatgaaag aagcagcacc gactgttttag caaaaacaca 240  
 gcactctgca gaaaagagaa aatgtaaagt atagagtgtg cggcctgccca aatagtagag 300  
 aagaaatcga tganagtgaag agcaagtaaa agatgaggta tagagaatgg cggtcctaac 360  
 tgtaaggatc 370

<210> 3319  
 <211> 329  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-065-Q1-E1-H5  
  
 <400> 3319  
  
 gaattagaga atggagagtt gctatggcat tgtgcatggg gttgaatata aactgtcaga 60  
 ttctctacgaa attgccagct gttttatcac aggaactttc tgggccaggt caggagtctt 120  
 ctgatatgaa tgctctcaga gaagctgaaa tccctgaagg aaactctatt catttaaagt 180  
 accgtctgtc cgacaagaat tgcaacgtca atgaatctgt agagactgta cacaaactgc 240  
 cacaacactt gagaaatgat caatacgaga aggcttggga tactgaggct catactatac 300  
 aaccaaagca ttggacttgc agccttttc 329

<210> 3320  
 <211> 305  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-065-Q1-E1-H8

<400> 3320

tgttggggccc tgtggtggtg atgccctgga ttgagctacg tagtgggaac tccgctgtct 60

tgaaagacat aactgcaagt attgaaaagc ctgacatata atggataact acgacgaatc 120

tcagtacttg tctgaattct gcagaaggaa atgttacggg tgacttgtcg cagcagtgtg 180

gcttgaaaga tatattttca ttgaagcttc tcgagaataa ctttaagttg gcgtgtttta 240

atgatgcctt gtttttagtt ttaccaggct tatcctttgt tattactggg aatcgtatat 300

tctgt 305

<210> 3321

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-065-Q1-E1-H9

<400> 3321

agcttacaga catgatagcc gatcgccttc acattcaagg tctccacctc cccgaagaag 60

ccaccggtcg aggagcagat ctctctcccc aagaagattt cgacgatctc cttcagatag 120

tccaaggaga cgagatgact attctcggag tagtagtaga agtccgataa ggaaggaaga 180

aaatagaaat aggaatcttt cccccagcgc ggagaacaac catcgtgatg agggcagtta 240

tgaagaccgc cgtaggtctc gctcaaggag cgttgagagt actgagagga ggcgaggtga 300

gaattcccaa aacgagtcac ctagagggtga agatgaatac taaagtttca aggaagtga 360

cgacctgatg ttccttgaaa cgttccccct ccttctctggg gtgg 404

<210> 3322

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-066-Q1-E1-A1

<400> 3322

aggcaatttc cagagttgat gtcggaggat aaccgtgtct ttgttggtgg tctcccatgg 60

tctataagtg aggacgactt gaaacaagta tttccaagt acggagaagt cgtagatgcg 120

agggtggtga tggacagaga aactggacgc tctcgagggtt tcggttttgt ttcatacgct 180  
gaaagctcgt cagtggacga atgtatagct gccttagacg gtcaggacct acaaggtaga 240  
accattcgtg tcaacaaggc catgactcgt gaacaacgag atgaagagtt tgcttccgga 300  
agaggagggtg gacgaggctg ttatggagggt gggttttcgtt ctggtggtgg ctttgagcgt 360  
anggactacg ataaccgcag gaactatgac cg 392

<210> 3323  
<211> 245  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-066-Q1-E1-A2

<400> 3323  
agcccaggca tcagggtgctc gtaacgctgc tcgagtgatt aggaaggggtg gcatccaaaa 60  
tggtaccctc aagggatacg tgtttncggg aaaagtcaag gtttcgggttc aacagaacct 120  
aagggaagat aaggtcccca cggcttggca gttcgcccat tttagtagta agtttaaatgg 180  
gtttaacacg tccagtggca attccggccc taaacactgc tagatgaagg aaatgctaac 240  
ctatt 245

<210> 3324  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-A5

<400> 3324  
agccccgcg tccgattcgc ttgtggcgtg tgaagttttg gttaccttga aagaatgcag 60  
atatattgtaa agacacttac tggcaagact attactcttg aattggagcc ttcagatact 120  
attgagaatg tcaagtccaa gatacaagac aaggaaggaa ttcctccaga ccagcaacgt 180  
ttgatatttg ctggaaagca acttgaggat ggtcgtactc tttcagacta taatattcaa 240  
aaggagtcta ctcttcactt ggtattgcgt ttgaggggtg gaatgcagat atttgtaaag 300  
acacttactg gcaagactat tactcttgaa gtggagcctt cagatactat tgagaatgtc 360  
aagtccaaga tac 373

<210> 3325  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-A6

<400> 3325

```
agccccacgcg tccgcccacg cgtccgtgca aagccaaact atttggaacg tttattagtg 60
ctcgttactc aagttggatt tttcgccctt tatactacta tttatctatt gtcacctaaa 120
actgcacatc gtatcgttgg ttacttagaa gaagaggcag ttgtatcata taccgaatat 180
ttaaaaggaa tcgatagtgg tttgcatgca aatattccag caccgcaa at tgcgattgat 240
tattggcaac tagatagcaa tgctcgtttg agagacgttg tattggcagt gagagcagat 300
gaggcaa atc atcgagacgt gaatcacctc aaagccaatc ttttatatac aaagcgtgga 360
aaggaaactg cacctttgtc cgtat 385
```

<210> 3326  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-A7

<400> 3326

```
aggggggaggg aggaggatgc aaggttggaa gaaaccagtc ataaccgatg cttttggaaa 60
cagagtaact tatgtgttga aaagatattt caacgcacct actactggag aagagttgcc 120
acattcgttg ggtgggtcatg tgaccgatgc agatacgttg ttacggcaca aagggctggg 180
agaagaaaca gcgtattttc tgaaagaaga cgctcgcaag tttgaaaagt tggcaaaaaca 240
gttgaaaagt gcgttgaatt cagggaaact aatgacaaaa gaacaactca aagtggccat 300
ggaacagaga ggaatacaag tatctgaaga gggtttagag gacttgcttc gtctaaaaga 360
gcacattcga ttctcggatg caagtagcag tggtagctaa gaaca 405
```

<210> 3327  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-A9

<400> 3327

cgggtcgacc caaacgtacg gaaaactgca acaacgtcat tcctggcgac aacaaacaga 60  
caaggtcaca agcaatcgga acccgcaatc ttogaagtag aacaattccc aagcccaatt 120  
aaagtagttg ttttatatatt cgctgatatg cctttgtttc tcaaaacata ttgaaagctt 180  
ttgaatgtgt taaagagact gatttttctt taaaaaaaa aaaaaaagac aaacaaaaat 240  
aaaaaaaaat agcaaaaaaa aaaaaaaaaa acgaaaaaag aaaggaaacg aaaaagaaca 300  
gaaagaactc aacactagac atgaaataaa aaaaaagggg gg 342

<210> 3328

<211> 441

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-066-Q1-E1-B1

<400> 3328

cacgcgtcag cttgacctca ggaagtcttc tagtgcaaac cttgtatcct cccacgaag 60  
aagcaccacc acaatgtttc tcctcctcat ctagtatgga aaatgagagt agctacgacc 120  
agttctccag aatcgggttt gggtgaaaag tcggaagagt cggtgggtat tggaattatt 180  
ggagcaggaa gaataggcca agtacatgca gaaaacctgg ctttccgtat caagaaaggc 240  
agattggtgg gagttgcttc aggaaccaa caattggcag aaagatgtag tttggctact 300  
ggatgtaagc cttattatga ctatcattta ttattagagg atcctagtgt ggatgcagtt 360  
tgtatttggt ctggcttcaa tcaacatacc anacagatta tggaagctgc aagagctggc 420  
aaacatatct tttgtgaaaa g 441

<210> 3329

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-B3

<400> 3329

aggaaatgta caacgattat atagacgcag gtagcaccca cgacgatgaa aagaatacta 60  
 cttggagaac aacaacttcc caagtatcac ccgaacaaca acaagaagct gcacagtttc 120  
 gacaacaaca attacaacaa caacgaagtt tacaagcggt gaacgctacg cttgcccagt 180  
 tttgggacga acaaatgcga gaggtcagcg tcatcaccga ctttaaaaac catatgctac 240  
 ctttggcaag aatcagaaag attatgaaat ccgatgaaga cgtgcgcatg atatccgcgg 300  
 aagctcacgc cttgttttct aaagcttgtg aaatgttcat tttggagttg accattcgag 360  
 cttgggcaca aacagaagag tcaaagcgta gaactcttca acgttgtg 408

<210> 3330  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-B4  
 <400> 3330

gaccacgcgt cagcggacgc gtgggaggac gcgtggggta gtgggtttta taaatattct 60  
 atttccttta aaagaaaaaa aaaaaaatc aaaaataaca accaaacaac aaaaaaaaac 120  
 ggcaaagggt tcaacaacag caattacaag aagaacgcac atttacaatg cgtcgaacgc 180  
 tacgcttgca cacttttgcg acgaacacct gcgagatgtc ctcgtcacca cccacttgaa 240  
 gacccatatt ctaccttttg caggaaacac cctgactatg acatcctttg accacttgca 300  
 catgatattc gctggagcac ccgccttgtt ttctaaagcg tcgtcactgt tcaactcttg 360  
 aattgactat tcgacccttg ggcacaccac agaacactca cagctgtgaa ctcttcaacc 420  
 tcgtgata 428

<210> 3331  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-B7  
 <400> 3331

agttttaata tttgactcca ccagtcaacg attcgggtgc gctgctgaac acgtttatga 60  
 cgtaaacgag aataccaagt tgcgttttgg tgggaaagtt cgtcacggag aatcggaccc 120

ggcaggatat gtcattgccg aatatgactt tacgggtttcc aaagaagatt ttccgataaa 180  
 cgttcgtgca cgtgcgatat gtaaaagtaa ccagtgcac gccgatattc gtgccaaaaa 240  
 gaagtttgaa gtggacgaag acacttcttt attcttcttg gccaaagctt gtactcagga 300  
 actaacaaaa ggaagttata ttattggtaa agctggagtg acacgtgact ttcgtttggg 360  
 tgaagacact tttcggttgg gtgcggtgtg tgaccaagat ggaaactgt 409

<210> 3332  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-B8  
 <400> 3332

aggtagaaag aagagagtgt aaggcggcgt cataatagaa atccgaaagg agtagaagaa 60  
 aagagagaga agaaagaaaa gaagagaaaa gccgtactga agaccgacac aggtactcga 120  
 ggagaaagga gacccaaatt aaggtgagag aatggacgat aaggaactag gcaaaaggat 180  
 atggtatctg cggtagaaca tatgaaagaa gcagcaccga ctgttttagca aaaacacagc 240  
 actctgcaga aaagagaaaa tgtaaagtat agagtgtgcg gcctgccaaa tagtagagaa 300  
 gaaatcgatg aaagtgaaag cgagtaaaag atgaggtata gagaatggcg gtcctaacgg 360  
 taaggatcca aaggtagcga agtaaataga cgtttg 396

<210> 3333  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-C1  
 <400> 3333

agggcgaata ttcgatgcgt agaaaaaatg aaaatgagac gacttgtcaa aaacactgct 60  
 tatatttgga tgaataaacg tgcacaaaaa tagtattcaa gaatatgttg agtatacaag 120  
 ttttgcaagt atggacgaat gagcgtatgg acactaaca gttgaagatt gctaccaagt 180  
 ttgaaatggc actggaagaa actcctttat atatgaatat attatcttca cgatcaacga 240  
 gaaagcgaaa tcgagagtgc attgaattga gtgagcacia gcagaagctg gtgccaaacc 300



aagtagtatc tactgcaatt ccagatatat actttacaat gacgctttac agcacggcaa 360  
 ggtggaagag aacaacggtg cttggcagta ttgtgcgtcc tatcgatgac ttgtcaaaga 420

<210> 3334  
 <211> 235  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-C3  
 <400> 3334

cgcgtcagcc caagcgccg gggattaca agagatacac ttcataagcg tcgccttacg 60  
 ggaggtaaaa aggctatatg gaggaagaaa cgaaagtata atttgggaag acaacctgca 120  
 aacacgaagc tgggtccaaa ggcagtacga cctgtgagag taagaggagg caattacaag 180  
 tttcgagcac ttcgaatgga ttctggtaac ttttcatggg gtcacgagge gctta 235

<210> 3335  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-C5  
 <400> 3335

agaatggttg gtttcgtcgc ttcggtcctt cttttgtgat tctcgtgtat tgcacgagaa 60  
 aaagtcctta agatggaaag agctttgaaa agcagtgac gtcttgtgcc catacgtcca 120  
 aagcctgttg taccttcaaa agggctctgaa actttttcgt tgcagttagt tgggtgccacg 180  
 tgggatggtg gttgcacgta ctatataagg ggaggagggt catatattac taatgggaga 240  
 attacagtac cttcaagggc gtctaataccc atgaccaagg acgagttctt cttactgggt 300  
 acttactcga gagacaagct tttgcgctg tttgatagaa ctctacaaag ttccgaaaca 360  
 cagtagtggt ggttactttg ggggtgtattt tcacagttgt ttttaataac 409

<210> 3336  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-C8

<400> 3336

aggggaagtgt tcgtaagcat caagaacttt caaggaaacc aaaactggcc aaccctggta 60  
ccaacggcaa ttctccaac gcatttttgg gaacaattag tcctttgggt gaatttaatg 120  
gcggggttga taatcaagga ggaattaaaa tactgaacca aagggtgtcaa aagctggatt 180  
agttggagca agtgcaacaa agaaagatta atgattggaa agagaaacta aaagtcttc 240  
aaggccgtgt cgatgaaaca actggcaaag acaaaagggt ttgagagcga agaagagtat 300  
caaagaaagt tggagcagct cgaaaaggaa aaacaaagca tcatcagtga aaatatgaaa 360  
gctgaaga 368

<210> 3337

<211> 342

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-C9

<400> 3337

agcttttggc ggtggttaag agacatgtct caaaatttgt tacgttgcag caactaaatg 60  
catttacttg tcgtttaaac gacagctttc aacagattga ggaacgactc aagatgttgg 120  
aagtaaaggc aacaagacta gaggaaacga cgaataaatg ggacaagtgg ctacgaagta 180  
ttggaaaatg gagagtgaaa ccacaagaca acaaaaaagt ggttgcgaaa aaatagacct 240  
ttccaacgat aatggtgtca caagttctta cacacaactt acaagctcaa aaaccaacat 300  
gactttatga agcgcttata aaccgggaat ttctgtcttt tc 342

<210> 3338

<211> 423

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-D1

<400> 3338

aggtaacaca caatatgatg atgatgatgt gcgtggtaga agagaatcga gttgtaatta 60  
cttggagcct acaaatgaat cctcccatgc ttccctattg gaagaagaaa gtggagatat 120  
tgatctggaa tcttcattga atcgttttca tatggatatg gagttgagtc aacgtgctcc 180

acctccacca cctacggcac cttcttttagg attagaactt ggaacgtccg cacctgcagg 240  
 ttctgggtctt cctgcaagtc ctttttctgt tgcgtggact cgaggctcga ggtcatcgag 300  
 tgttgcacca ggagaaatga ggacttccaa gtggctacgt gctagaagag gattgacaag 360  
 cagtgaaaca agtgatcgaa gtcagatgcyg ttcacgagag acttgatgaa gataaagata 420  
 tct 423

<210> 3339  
 <211> 311  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-D10

<400> 3339

gggtcgaccc aagcctcaag ccaagcctcc ggaacgacac tacaatggtg gtggaaaagt 60  
 tgtgtttaac gcaaccgacc actccggatt tgcagtgggt caagctcggt ttccggatta 120  
 caacgatgaa atgcaacatc catcgccatc ccaggatggg tcatcgttgc aaaacgaaac 180  
 agagaaaata acgattgttt ggaagcttgg taaaatacaa gaaggattgc atttggctgt 240  
 ggaacgagta tgggtaaacc ataccaagta tggtaaacag tttcaggtgc aggtgggaca 300  
 gcagaacctt t 311

<210> 3340  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-D12

<400> 3340

gtttgttgaa aagcagcatg atgaagagcg ctatgaagtt ctttgtatth agcattatth 60  
 tggcaaagtgt tgttcttact attcaagcag caacggthtt ggagactthg gagtcactga 120  
 aatatacaga gtatcttgac atggtaaagg ctgcaggcct gcactcgaag ttcaacgact 180  
 ctgctgttac atggactgth tttgcagcaa acaatactgg agtcaatgcc accttggcac 240  
 cagagcactt ggthtttctaa tatcacatct aatgcgacgg agagcaaaga cattgtggaa 300  
 tatactthgt acaaccatac tctthttgtca gatgatatta agacaggaac aactatcctt 360

accgccgtaa acggaatgaa tttgactgtg gttaagaata cgac

404

<210> 3341  
<211> 318  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-066-Q1-E1-D2  
  
<400> 3341

aggaaatttc agggaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaagaaaaaa 120  
aaaaaaaaaa aaaaaaaaaa aaaaataaaa aaaataaaaa gaagataaat tcaaaaaaga 180  
atgattttat aaatacctag acagaaaact tcattgatag taaacaacta ttaacacatt 240  
tttaaaaaaa cggcactttc gttataagta agtactacct gatattgaat gcacaatgtc 300  
gaataacgaa cgaggatt 318

<210> 3342  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-066-Q1-E1-D3  
  
<400> 3342

accacgcgtc agcaaaggct ctgtgacttg aaacaaggct aactcagtt tggagggttg 60  
aggccctttg gagtatcttt ccttttcgct gggtgggatc gacactatgg tttccaactt 120  
taccagtcgg atccaagcgg taactatggt gggtggaagg caacagcaat tggcgcaaac 180  
agtacagctg cacagtccat ttgaaaacg gactatcaag atgacatttc tttgaatgac 240  
gctttgaagt taactgtaaa agtttttagga aagacgatgg acagcgctca gttaactagc 300  
gagaaacctg aatttgcgac cctctcgttt gtcacacctg agcttctcca gttccaccac 360  
ctttcaactg aagag 375

<210> 3343  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-066-Q1-E1-D4

<400> 3343

agccccacgcg tccgcccacg cgtccggcga acgagaaagg tcggtatcgt tggaaagtat 60  
ggaacacggt atggcgcttc tataagaaaa cagataaaga agatagaaat tgcccagcac 120  
gccaaatata tgtgtgcttt ttgcggaaag gattccataa agagaaaggc ggttggtatt 180  
tggtactgta aatcttgcaa cagatcaata gcgggagggtg cgtggtctct gagcacccaa 240  
gcagcagcaa ccgtaagaag taccattcgt cgtttgagag aaatgacaga atcgtaacgg 300  
agcaaataatt accaacttgg ctgtntgttc gcaacttgca agtgaaactt gctgtttcct 360  
ttatcaataa gaataaagag acgaggggtct ctcactttgc gacaa 405

<210> 3344

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-E10

<400> 3344

aggttgagct ttgttttggc actgtttttt tggggtttca ctcgtgtgtt ttgtattttt 60  
aaaactctaa gaagactatt tattttttgt tatgttttag agtcttttct agactctgtt 120  
ttttggagtt gttctactcc agtcttggtg gtaggtgaat ggttctagtg acaaagaggg 180  
ttgtcacttt cccgccattc tccacagctt caactaccaa cttgtatacg cccacaactg 240  
cacaactata ttactacaga gtcgtggtgt aaaacgacaa gttgagtggg tgaaaaggat 300  
tggtgaaaag caaaggacta gtgagagaga gcaactgaaa acttgatat ttgtaccccc 360  
tagaaactat ttccgcttga agagattgca agtttggtgt attcgacaa 409

<210> 3345

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-E3

<400> 3345

aggggaagctg gcgagcattg gggtttcttcc cgagagagaa aacgagtgca aaagttgtct 60

ttcgatgtct agtgttgatg cgcattccaac aatagtttat cctcattatg tcagagcttt 120  
 agatgaagaa aaagctcaac taccatctag ttttcctcga gaatattcgg aagagtttca 180  
 acacatttta cccaagttgt tgcagcgcg ttttcatata ctaaccaaac taaacaacca 240  
 aaagggtaat ttatcaaata tttcgaaaaa ctttgtgttg agccatccac atattcacgt 300  
 cggtattctt cgaagagccc tggatggtgc tggtatttac tccgcttacg tgggttccca 360  
 ggtacaaggt ccctcgggtt ttatgcatgg aggagctaca gcagca 406

<210> 3346  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-066-Q1-E1-E6  
 <400> 3346

agcccacgcg tccgctccca tgaaagatac agagaacaag gacagtcaag atgtagagtc 60  
 tggaaagaag agcgaaaaga agaaaaagaa aaaggacaaa catcgtgata gtcacggaaa 120  
 acatagcgaa tcgaaggaga agcacaagaa ggattcgaag aaaagaaaac acaaacattc 180  
 gtctgaaaag aagaaaagga aacgaagctc agaagttcca tcgacagatt ctgatttattc 240  
 aagtggagaa gaaaaaata ccaatgagaa tctgcaacaa tcccagtttg cgacagagaa 300  
 tactcatagc aacaataatc ttatatcttc cccgcagaat aatttcacgt ctccacanaa 360  
 aaangatcga cccgagacaa aatcttttct ctccgaaaca acgaccagac caaactcagt 420  
 ggaatgcaga agcaac 436

<210> 3347  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-E8  
 <400> 3347

agcccacgcg tccgccagag ttcaagaaat acgcatttca ggttcaagcc aatgcccag 60  
 ccttagcggc ggaactggaa aagcgaggat ataaacttgc tactggtgga actgataatc 120

atcttgtctt gtgggattta cgcccagtaa atcttacagg ctccaaaatg gagaaaatat 180  
 gtgatgctgc gcatattact ttgaataaga atgccgtaca tggagataca tcggctcttg 240  
 tacccggtgg agttcgaatt ggaactcctg cccttacttc gagaggtttc aaagaaagtg 300  
 attttgtcca agttgcagac tttttagata gagcagtga aacttgcctt gcaattcaag 360  
 aaaagtctgg aaagaacatt aaggatttca atat 394

<210> 3348  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-F2  
 <400> 3348

agcttacaat atatatttgg tgaaagacaa gaaagaaact ctctgtggg atggcaagtc 60  
 aaagggctct cctcgcaagc taaaatttcc tcaggcagaa accatcctgg agtcactgaa 120  
 tgcctagacc agttatctag tcattcggag ctttcgcta tatgacgact ttaccgaaa 180  
 agaatccgtg attctggtac aagtctgaca acgtttattg ttctttttgc agtcgaaaga 240  
 acagtaatta ctagtaaagg ctcaagaagc tggagattgt tatttaaaaa gaacaatgtg 300  
 agtcctcagg tgtatctgcc cgcggat 327

<210> 3349  
 <211> 325  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-F3  
 <400> 3349

agcccactct tccgcccacg cgtaccgcga agatgttctt tatgaacaca aagccgtaca 60  
 agaagctgcc gttatcgggtg tgcctgaccg atctcgatga gagactgtcc gaggttttgt 120  
 tgctcacaag gtcgaatcca gaatttcgga atcagatctc aaatgattct gcaagtggac 180  
 actctgcgtc tacacctatc ccagaacat cacaatttca tcgcagaaac cattgctctc 240  
 ctcagcgggt gattccttcg agttttccag cagaacatgt gattgaaatc ttatccgcaa 300  
 tctaactaca atgttgtcac tggca 325

<210> 3350  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-066-Q1-E1-F5  
  
 <400> 3350  
 agagcagcaa agtgaacaa ccagaaaagc agtcaactcc gccctcgtca cctcccaagc 60  
 cacctcagca agttgttgag acaagtaagc agagttttgt aggttctgaa gtgggagtaa 120  
 agagagtggc aatgacacga atgaggcgtc gtattgcgga acgactaaaa gaagcgcaga 180  
 atactgccgc tatgcttacg acatttaatg aagtagatat gtctgctttg atggagttga 240  
 gaaatagtta taaggaagcc ttgaaaaga agcatggcat tcgttttaggc tttatgtccg 300  
 catttaccaa agcagcaact ttggctttgt tagaacagcc ggaacttaat gcttatattg 360  
 acggcagcga tattgtatat catgactatg tcgatatctc cg 402

<210> 3351  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-066-Q1-E1-F7

<400> 3351  
 agcccacgcg tccggcagcg tttgcaattt ttgttgtag tgagtagtgt catggcagag 60  
 caacaaagaa gtgagagtac tgaagttaga agtgctgcag ttcccacccc ttgtataaag 120  
 ggttggtgggt tttatggtac ctcttccact cttgacatgt gctccaagtg ttatagagaa 180  
 catttgccgc aagaggaaca aagacttcaa gtggagtctg tatgtcagca gcagcaacaa 240  
 caacaacaac aacaacaaaa gcaggataag gaacaagaaa tgactcaagg gtccgagttg 300  
 cagcacttgc cctctaaaaa ggagcaaggg gaagagacgt cgggtggaggt ggctcaacct 360  
 agccagggtt ttgttgcgga gagggtccga ngggaaaact cggaatttgt 410

<210> 3352  
 <211> 206  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-066-Q1-E1-F8

<400> 3352

agcccaacgcg tccgcccacg cgtccgcccga cgcgtccggt attggtgagc agtacaagct 60  
atccatgccc gtttctgtat gggcgctttt tattcgact tagtatttag gcctccattc 120  
ccaccttcat atacacagga agacttccat aaaactggga tagaaccac acaaacagct 180  
gtgtccctgt gtacacacat tgaaga 206

<210> 3353

<211> 259

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-066-Q1-E1-G2

<400> 3353

gtccgacagg cgctacnggg aatacaacta gtttccctag ttcggtttcc acgggaatac 60  
caaccagtgt accaacaaca tcattcttga ttactatcct tactgtcttg caagacaacc 120  
actttgacga tacagtacaa gctataaatg cggcaggact tgactctttg tttacaatc 180  
cttccgctac tcttactttc tttgcagcan atgactctgt atgggtctact tctacagctt 240  
ctcaagctct gagtgtctt 259

<210> 3354

<211> 428

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-G4

<400> 3354

agcccaagcg tccggttgag gaacgatgaa gtggcaaagc ggtcctagga atacaagttt 60  
taataggata caaacgctac tgcttttctt gttgattatt tgcaacgttt ttccatatag 120  
ttactctata caattttata tgaacgctgg aacgaagcgt tgtctttcgg aagaaattac 180  
ctcaaacaca aaggtgtttg gtgaatgtct tgtagtcggt gcggaaggct ccatgtccgt 240  
agatctgttg attcgaggac ctcaagggga gactatagtg caacagaaga acatagataa 300

gcagtcattt agcttcacaa caccacagca cgttcttgct ggagattcga gtttggttc 360  
 caacgatatt cactggcctc ctgcaagtta tcacttttgt ttcgaagcta gtcctcctcg 420  
 tcctcctc 428

<210> 3355  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-066-Q1-E1-G6  
 <400> 3355

aggaccgaca caggtactcg aggagaaagg agacccaaat taaggtgaga gaatggacga 60  
 taaggaacta ggcaaaagga tatggtatct gcggtagaac atatgaaaga agcagcaccg 120  
 actgttttagc anaaacacag cactctgcag aaaaagagaa aatgtttaat tataaaattt 180  
 tccggctgcc aaattataaa aaagaaatcc attaaagtta aaaccaatta aagattgagg 240  
 tatagagaat ggcggtccta acggtaagga tccaaaggta ccgaattaaa tagacgtttg 300  
 aaaggcgtcc attatgaaag gagaaacgat tgtaccactg t 341

<210> 3356  
 <211> 196  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-G7  
 <400> 3356

gtcctccacg atagcagtga cccatattta cgtgagatca ttttccatga ggatctcagc 60  
 aactggatct ggtatctgct cttcgacatc tggccgggag catcatccac tgtttaccat 120  
 ttgcacaaca ctctgcacgc tatagaaact gtaagatatc aatcgttcgg cctgccacct 180  
 tccactaaac aaatct 196

<210> 3357  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-G8

<400> 3357

agggagaaca ttgcaattgg ttactttccc tgtaatgttt ctcatgttat tgatggttct 60  
gttttccttt tacggagata agaaagtga tttagccttc tttattatcg gagttatatt 120  
ctttattatt gcctatagtc ctggtgctgg tcctgttcct tggacatttt gtgctgaagt 180  
atttccaact tatgtgcgtg cagcaggaac gactattact acttggtttg tgaacgcttt 240  
caactttgcg ctttcattct cgtggccttc tatgaaggct gcatggggac ctcaaggagg 300  
tttcggatcc tatgctgggt tcaactttct tggcatcggt atgcagttct tattcttacc 360  
tgaaaccaag ggctttacat 380

<210> 3358

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-H1

<400> 3358

agcccaagcg tccgcccacg cgtccgccc cgcgtccgca ccagcagtga atcagattga 60  
aatgcatccg tattatgcaa gaacagatct gctcgaattt tgtaagagtc gtggagttca 120  
tgtgactgct tattctcttc ttgggagcgg taaacatggt ccgcttcaag atgagacagt 180  
tgcaaagatt gccaagaaac atggaaggac acctgctcag gtattgatcc gatggtgtct 240  
acaacgtggg tgttccgtta ttccaaagag cgtaaagaaa gaacgtatca aggaaaactt 300  
tgatgtctta ttcgaattga gtccacagga tatgaaggaa ttggaagcct tagataagaa 360  
cataatcctc aatcatcaaa aggaatattg gggtttcaat attcacgctt gag 413

<210> 3359

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-066-Q1-E1-H12

<400> 3359

ggctcgaccc aaacgtcagc ccacgcgtcc gccacgcgt ccgcggacgc gtgggtgcaa 60  
atgagcgagc aaaccgacct tccttctgaa ggcttgacta caaagaaaga cctttccatc 120

aaggtggaga atacaactcc gacaattgaa ggaaaaagta tacctgaaag tttgtgggggt 180  
cagctggaag aacttgagaa ggctgagagt ctttcacaaa ctcatgttga tagcttccaa 240  
cggaaaagaa aaaaagagga gttcactgtg gagactttag aagagggtag tgtggaagag 300  
tcacctacga agagcccaca caagtctacg ggagttactc caaaactgga gtcgctgtcc 360  
ttatcgaaaa atgaaaatag gttgaaaaga ctagaggagt gtgacctcgc atcactca 418

<210> 3360  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-066-Q1-E1-H2  
<400> 3360

agcccaagcg tccgtgatac ttgaatatgc aagaagaaaa ggaatagaca gaattgtaga 60  
gatgaacggc aaatgggtgga tatatactag gacacctccc aatcgaaagg cactgcggtg 120  
ttggtatgac atggactgcg tgggtgttga cccagtcaag gacttacaaa cggccaaagc 180  
ttatgcgaga agagtaaaat aagcagtgga gaagagaact acggtcgaat tgcccaaaca 240  
agatatttgt gtacgacgta gcgacgggaa gaaacacgga gtggctcgcta ggagaggaga 300  
agatattgag tttgctcaag atacagcggt taaaaggca agtaccgtcg gagtaaaagt 360  
ttggctgaga aagaaaccgt actggag 387

<210> 3361  
<211> 243  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-066-Q1-E1-H6  
<400> 3361

agcccatgcg tccgagcaat tacaatttgg gacatctgta ggcgctgccg ttgagtaatt 60  
ggagtatgag tgagaacata ccaacggagg acgtcccata ccaccggttt cttaggagaa 120  
ctgtttactg gacgccttgg ccacgcttgg ctaaactcag tcctaacgaa agggttcgag 180  
ttaatggcag cgttctgatt ataacggcgt aaagtgggtg gatcatctac actgaactgc 240  
aat 243

<210> 3362  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-066-Q1-E1-H7  
 <400> 3362  
 agggaaaacg tcatgcagtt gcgtattcct tctgctgcag tcaaagcaca gtacttcgac 60  
 ccaacgcaag ttgttgtgga ccctgtaaga gatacatcac gtcctcttgg cactggaggt 120  
 tctgttgtac gaatactatg ttgcgatgga gtaattattg gtgcagatac tttaacttct 180  
 tatggatcga tggctcgatt tcaaaacttg tcgagacttg tagacgttac tgacaattgt 240  
 ttgttgggtg gtggaggtga aatttccgac tttaagaaa ttcaacgtct tttagaaaaac 300  
 ctcatcacat ttgacatttg ttttaaat 327

<210> 3363  
 <211> 351  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-067-Q1-E1-A10  
 <400> 3363  
 agccccacgcg tccgccccacg cgtccggctc aatggcggag aaaggactgg ttgttgtgat 60  
 aggtgcaacg ggtccgcttg gaaaagaatg cgttctggca ctggaaagtg aaggatatcg 120  
 tgtccgtgca gcaagcagaa ggggtgaaac ggctcgtgag atgctactcc acaaggtaaa 180  
 gaacccttcg agagtggact ttgtccatgt cgatgttatg gaaaaatctg tactttctag 240  
 cgtattaaag gatgctgaag tgggttttctt ctgtgcttca gcttctgcan ggtggagagt 300  
 ccctgggtact tctaagaaca ccccgaaaca agtggactac ttgggcgccca t 351

<210> 3364  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-A11

<400> 3364

acaagcctca tagtctgagt catcagtaac ccagttggat agagcctcgg agagacgttt 60

cgcatacttc tggatgatgat tatctatttc atgaggacgg tggaggaact actcagggca 120

gtggtcgtga agaagaaagc atccaaatag gagtttggtg tgggaagagt tgttgtaaaa 180

ataacagttg gcagatgggtg aaccaagtcc ttgcacagtt taaaggggtg tcattcgaaa 240

caaagcccag taaatgcacg aagctttgta gtaagaatgg cgtaacgggtg aaagttcagg 300

ataagacttt ggggaatatg aatgctagta ctctttacca agtggtgaat acttggaaac 360

actgcgaaag ccaggaacca gaattgcgtc ctg 393

<210> 3365

<211> 384

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-A12

<400> 3365

aggtcattgc caccaaacca caacgattct ttgtgtgttg gatcgatgga agctctccta 60

tttctgttct tcacttgctc tttgttgaca aataagagtt tattcaataa aacaaaaaag 120

tgctatcctc gtagaagaac aagaatgtgt tcgtccattc ctgtggatag acgacttgta 180

tattttccgt tttcgttggt agagaaacaa aaggatgcaa gttggacatt gaattctaag 240

gctgtatcag agtttctcca acaatacaaa cattctccag ttttattcag aaattgtttt 300

cctgatctat tttttgcaat tactccagaa gagctggcag gacttgcggtg tgaagatggc 360

ttcgtgtctc gtatcgttca actc 384

<210> 3366

<211> 345

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-A4

<400> 3366

agcgcgccaca tttggattct ccatgtcttg gcaagtctat gtagaccaac atttgcttgg 60

ttccggaaag gtaaaagacg cagcaatagc tagtttaciaa gggaatatat gggcgcgctc 120

tgcggggtttt caagcttcca cggaagagtt gaaaaagttg attgcaacct ttcacaaac 180  
 caaagaagca gctcaaaacg gtatTTTTTTT ggggaataag aaatactttt ttttgcggtc 240  
 gacagaagat actatTTTatg ggaaactggg tgacgatggc tttgtagcta tgcaaaccaa 300  
 tatgtgtctc atcatagcga tatttaccag acccgatatct gccgc 345

<210> 3367  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-A6  
 <400> 3367

agcggttattg tagtctacgc aaaacaaatc aagttattgt tacacatcaa agtattcacc 60  
 actatagctg gaataggaaa tggattgctg cgtcaagtga gcaaagccat caaagacctc 120  
 atgtacagtg gtatccaggg catattgcaa aggcagagag actcttataa gaaaaactca 180  
 aacttgctga cgttgttttg gaagttagag atgcaagaat accaaagtct actgagcatc 240  
 cagaactcat ttcttggtt ggtgagaaga aacgattgat agtgctcaat cgtaatgata 300  
 tgggtcctcg cgaagcaata accttttgga ttagaacaat gaaacagcaa ggttttcaag 360  
 tttttgatac aaacgcg 377

<210> 3368  
 <211> 324  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-A7  
 <400> 3368

cgaccaagc gtcaggcata ccaatgatcg ttgaggaatt gtgagcagca gccatgtcga 60  
 aaatgctatt acgtcctggt tggaacacct ttgcacagtt gacagagagg gggacagaac 120  
 aactaggttt gctgtcagag aggtctattc aggcaactag tgcgcggaac tttttctgaa 180  
 gacccctaaa tgaaggacaa tccccctctt cgtcatcgtc caaaaatacc ccacaaagtt 240  
 cttcttgcca gaaagttcct aattggaacg aaggggggga ttccacggca accacattgt 300  
 ttgcaacgga aatgattcga ggac 324

<210> 3369  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-067-Q1-E1-A9  
  
 <400> 3369  
  
 acggcagagt tgatacagaa aatggaaact agttggaaga aacacgttga aatttttgct 60  
 gaggcgtcga ttgctttgtg gcatacacia atgcttatga ttgatgagtt ttccaagtcc 120  
 tccgaggaga tacggcctta tgttcaagat tacttgaata acttgaacac aagtagtgga 180  
 aattatgtcg gggatggaac atcggcgaca cttggagaga gtatggaaca gtcaaaaagt 240  
 gctgaaagtg aagacaaaag gactacacga ccatttcagc gttcgaggca aacgacgggt 300  
 aactcggaca gttcttctcc aacttttagat gaaaacggaa agcaagcttc gtcttcggat 360  
 atttatcagt ctatgagaag tgctcaagca tgaa 394

<210> 3370  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-067-Q1-E1-B10  
  
 <400> 3370  
  
 ggtgcatgtc ggaggaagag gaagcagatt ttcgaggga ttgtgactcg gttgctattc 60  
 caaagaccac cgtgaacaaa gtggcgacag aagtacttgc caatgccggt aagttgccga 120  
 aagaaagtgg acgaccaaga tggaacgatg tatatgatca ttgctatcgt atataggtgc 180  
 gcatctttcg tccgatgcca aagaactatt ggttgggttt tggtctgaat tcgtgcaact 240  
 tgtagttcc cagccaacg aattgtgtga aaaggaaaac aaaaagggtta tttctcccga 300  
 acacatttta cagtcgttgg aagaactggg gtttggagat tattgccaag aagtgaaca 360  
 agtgtatgaa g 371

<210> 3371  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-067-Q1-E1-B11

<400> 3371

ggaacgtaaa tggtttgga tggttgataa gaaaaggcta ttttacaacc tttatacaac 60  
aaacaaatcc agatattatc tgtttccaag agacaaagat ttcccgaagg aaactagcgc 120  
agtggagtgt ggtcaccaaa gactggaact gctttctttc actttgcaag tcaaacgaag 180  
gttattctgg tgttggtact ttttgtaa at tgttttggcc gttgttcaag gcagaagaag 240  
gtataactgg tttccttcct gcagagtgtc tctcgtggaa ctcgaaacga ccgtgggttt 300  
gtcaattgag agacaatccc acatggagag aaacttccta ttctgtgggg taccattttg 360  
aagttggggg agactcggat aagttattgg gactagat 398

<210> 3372

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-B2

<400> 3372

cacgcgtcag cccaagcgtc cgcccacgcg tccgccacg cgtccgcca cgcgccgct 60  
caagatgtct tttttgaaac gtatacagtc gactctgctt tccaacagaa actcagtac 120  
aaacgcaagt aaggccaatt acgacataaa gcacgttcgg gtttaccgct gggaccctga 180  
aaagggagaa gaacctaaat tggttaccta ctcgattcct ctcaaagaat gcggtcctat 240  
ggtgttgat gccttattca aaataaagaa tgaagtggac tctacttttg tatttagaag 300  
gtcgtgccga gagggaaatt gtggaagttg tgcgatgaat atagatggaa agaaccgtct 360  
ggcttggtta actccg 376

<210> 3373

<211> 333

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-B3

<400> 3373

gagccacgcg tcaaggaaat cgagtccttg ttgaaagaac gagatgctat tttgaatgga 60

acaagtgaag aatacttgag tcaattggcg cctttagaga atgaaaggaa acgtagactc 120  
gatagagcta tggactttta tcaacttcaa ctacaatatg cagaacagct gtatgagttg 180  
gccaaagaaag aagcatatga tagctttcaa gcacaaaagg cagaacaaag agaatatatg 240  
tggcgtagca agttggaaag agaaattacc ttgagaatcg taagattatc cattccatta 300  
agggacccaa acggacaagt gattgtacga acc 333

<210> 3374  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-067-Q1-E1-B7  
<400> 3374

aggttgacca aacagggact cgacagatat ggcttccggt gttgcagtag acgatacatg 60  
cggaaggag ttcactgttc ttgtgagaag cagccaaga aagtaccgtg ctattatttt 120  
caaactcact gatgacctgt cttctgtatg tgtggaaaag acgcttcccg cagccaacat 180  
aaccaagtgc agtgcacaag aagactggaa aaagtttgtg actgaattgc cccaaaacga 240  
ttgtcgtttt gcagtatatg actttgagta tcaaacttct gaaggtgttt ccaaaaatag 300  
aataatattc attctttggt cacctgaaag tgcgaagata aagtcaaaga tgttgt 356

<210> 3375  
<211> 316  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-067-Q1-E1-B9  
<400> 3375

acgcccacgc gtccgcccac gcgtccgaag tttggttgtt ttcttggttag cagttgtaca 60  
ttcaacatca tcaaagcca aagggaggaa agaaagattc ttcaaagaaa gaagccacaa 120  
gtaaacctgc agcagcagat gctacaaaga cgacagaaaa gtctgggtccg gaagccaagt 180  
tgaagggaaac tgggtgcaaag aaacaataaa aagttgacta tgcattgtgca gtcctgttat 240  
gttttgtgag ttctgtttga tagtttccag ctattctttt ggtagtgaat aaagagaaaa 300  
ttttttatat ttacac 316

<210> 3376  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-067-Q1-E1-C10  
  
 <400> 3376  
  
 cttttgaatc agttggatgg gttttcttcc gatgataata ttaaagttat agctgccacg 60  
 aatcgagtgg atatattaga tccgccttg atgcgctcgg gtagaattga taggaagatt 120  
 gagtttccctt taccggatga aagttctcga gctcgtatac ttcaaattca ttcaagaaag 180  
 atgaatgttc atcctgatgt caattttgaa gagttggctc gtagtacgga tgatttcaat 240  
 ggtgcccagt tgaaggcagt ttgtgtggaa gctggaatgg ttgctctaag agctgataga 300  
 acggaaatag ttcatgaaga cttttagtaa ggcattgcac aagtgaagc caaaaagaag 360  
 ggaaatttga attatttcgc ttg 383

<210> 3377  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-067-Q1-E1-C11  
  
 <400> 3377  
  
 cccacgcgtc cgggtgggtg gtgaacagct tgggagacct tggaagtaag gatattatgc 60  
 aaggactttt attaagatcg cttttatttg ttcccgaaa tagtgagaaa atgttacaaa 120  
 aagccttgca ggctcgtgca gatgctttga taccagattt ggaagactcc gtaccgaaag 180  
 atgagaaggt cacggctcgt aacctcggtt ccaaaatggt gccttcgtta agaaacaata 240  
 ctccaaagaa ggttcagata attccaaggg tcaactcttt ttatacgagc tggtttgagg 300  
 atgatttaaa ggcagttctc caacctggga tatcncagta accattggaa aggtanaaag 360  
 tgctgaagag atgaaagaaa ttat 384

<210> 3378  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-C12

<400> 3378

gcaccgaaaa gtagtttgtt tcaaccgatt gtacggttgg ttgaaagggt gatgcgtttc 60  
tggaagttgt ttttattgtt tcttatgtct ccattggctg gtcgatattc accggtaaga 120  
ggatgatggg tgagggaggg gttttaggtt gactgacac acaacaattg tgacaagggt 180  
tactggtgt tgaaaatatt gggtttgggt ccggaagaga ccgctaggat gtcgttggt 240  
gacaacacaa acacggtgaa tagggtacaa acgggacctt tggaagagtc gaccatata 300  
cataacgacg atcaggaatc caacttgtga gttttttag atggaatgat tgtatgtagc 360  
tctggaaaag a 371

<210> 3379

<211> 335

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-C5

<400> 3379

aggaaaactt ggatagaaaa gcagaatact agtctttttg ttcaagtatc caacttgcaa 60  
ttatgaaaac aacgctatgg aattcgttta aaagaataat tggactctcc agtcttgcaa 120  
cctagaacac taacgcttct tcacaaactt actcacgatt attccatata gcacggaata 180  
ctagtattcg tacatccatt ggaactgaca gtttttggac ccagaaacac ttgtttgata 240  
ggaaagggtt caatattccg aaccgaaagt atttcctcaa accacgtcaa gacgactata 300  
ttcactttgg tggaagaagg gagtcgggtt gggat 335

<210> 3380

<211> 319

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-C7

<400> 3380

acggttccgc gggatggcgc cttctctagg caaactttgg gtttatcctt cgggagtggg 60  
ttttctaggt gcagctgttg ttttgtatgg ttgcaacac gataaattgc cactagagag 120

agtcacgttt gcaaaaacct ttccaagcc cgtttcaaaa gcagataatc aagttgttcg 180  
agcaacaccg gaagaatgcg attgtcttcc gctttggcag tgtatgacta gtggccaaga 240  
cgactgttct caacttgaac gtgaactgag gctctgtatg gaacgaaaca aggtaaggga 300  
acaacacaag cgactgag 319

<210> 3381  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-067-Q1-E1-C8  
<400> 3381

agcccacgcg tccggagtgc tcagaaacta aagtttctga ctatcttgaa gaaaccttca 60  
tggtcgggaa cgaagaactg tccacgacag gcgcactact gggggtcgcc tcttctatct 120  
tgttacccaa gaaattcggt gaagactttc ctttggagag ttctggcagt aaaatttcta 180  
gggtgttttt gagaccgat ttgatagacc tttggaatgg tctagtggat gagcgacaca 240  
tgcgacggtt aaatatatta tctgctgcta gtgggttagg caagactata tatctttatc 300  
tgatcgctgt ctttggccga cactttgaaa tcccagtgc gtatattgga aacacgagag 360  
atctgct 367

<210> 3382  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-067-Q1-E1-C9  
<400> 3382

agcccacgcg tccggcgaaa caagagaagg gaagtaaaag gtaagaaaat acgaggcgac 60  
ctgggttttt ttccatccca cgttggtagc ttttgtatgt acactcgttg gttgtattgc 120  
attgttgtgg tttctattac aactggctat tgccaatccg caatatcgta gttggaaaaa 180  
agagtggata gctatcgttg ttgcgtcgat aggtttggga gaaggattgc tatttacgtt 240  
gatatacagt ggacaaagtt tatgaactaa ggttggtttt ccctggtagt tgaggacagg 300  
tgaaatattt tcctggttgc ttgtctcact cgtcgagccc cttgttgtaa taaattgccg 360

ctagcctcca tttctttcgc

380

<210> 3383  
<211> 351  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-D1  
  
<400> 3383

agcccaagcg tccgcagttt tggccttgctc tttgccaaac actcctctgg actcttcac 60  
acacaactgt ccaaaattca tatttcagtc attgtatgca cacaatgagc agaagagtaa 120  
aaatattttg gagacatcaa gcaattatcc caatagaagc tcataaagag tattcctcag 180  
ccaaagttac cggagccagg catggttcaa ctagctgccg gttcataacc gttgagattc 240  
cctctgatat cagatagttg tcgcgtgcgg atggtttcca gcaagagatt atgttattga 300  
tcaaacttct gaattatcta tcagaaactg ggagtccaaa cgagagataa a 351

<210> 3384  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-067-Q1-E1-D11  
  
<400> 3384

gtgtgtcatg ggaagaagag gtggcagtgg tgctgctaga agaactccgc taagggtcaaa 60  
acctcccctt tttgcaaaaa gagaaaggga agaagcaaca acgaaacagt cttcacgtcc 120  
tgcgctcttcg ctggccaacg tgaagaataa tcctacgagt ggaaaccaa gagagaagac 180  
caaccaaacy acgacccctc caactcagaa gcctagtagt acctcttctc tttttggggg 240  
aatgctanga agtatgtcc ccatgttttt atttatgaac tggttcaaga ggaatcccga 300  
ggaaagggaa ccagacaaag atgagatagc tcagaagaag tgtcagaggc ttgcgtgcaa 360  
tattcaagat tgtttggaag aaaacgacta tcagcaaa 398

<210> 3385  
<211> 115  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-D2  
 <400> 3385  
 agcccacgcyg tccgccgctt aagttcacga aaaattctac tggagacttt gtggaacgtg 60  
 atccgggtctc tgctgctgac gtgaaagcag gaaagtccgt cgttcaattt ttgga 115  
  
 <210> 3386  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-D3  
 <400> 3386  
 cacgcgtcag ggaaagtga gaacttacgg gtggatatgg atgccatgtt tatttggaag 60  
 ctactggaaa tcccaagagt gttgaacaag gtctctagat gattcggagc gatgggtgat 120  
 ttggagagtt tagtgtagtc aaagacaaga ctgctgtgga gtggacgatt attggtgaga 180  
 caaaggagtt gggtatacta ggagcacggt gcactgggtga taatggatat aaagtagcta 240  
 ttgatatgat tctccgtcac caaattcctg gtggtcgtat tggtactcac gaactaagct 300  
 tagacaatat tattcaaggc attcaatatg tcaacgagtg gaaagagtcg attaaa 356  
  
 <210> 3387  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-D4  
 <400> 3387  
 agaggacatg gaaggaaggc gcagtatcct aagcaagtgt ggcacccctt tggaggcaag 60  
 tttcctcatc cgagggattg gaagaagcac acgaatatag ctacccttat tatggcactc 120  
 actgtgatcc ctattagtta ctatgccgag aagcatactg tctattacca gtatccttat 180  
 cataagattc cttggaggcc caatttgaaa acttttgatg aagatttgga ggagcgaaga 240  
 aaggccaaga tggagaggaa gagtgttgca agcgatgggtg atgaacagct cgattcgtag 300  
 aacttgggaa aaaaggcatt ccttgttgtg ttaagtgttt tcgataaatg cacttgtcaa 360

ct

362

<210> 3388  
<211> 370  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-D5  
  
<400> 3388

cccacgcgtc cgcccacgcg tccgcccacg cgtccgattc aacgaacgat gaagttccag 60  
tacgttagtc ttttattggc tctcttatgc gtaggttctg ctctggctgc tgaattggca 120  
cctggaattg cggaaaaacc ggtagagaga ggatatgagg aaccctgctg taccgaatat 180  
tgttattggg aagaaatatg tatcacacc acaccacac ctacaccagc ctactattac 240  
tattattacg caagagatgc aaaacaggaa aatgtcgaga gaagcgtaga aaagagtatc 300  
tcttcgcgag aaaaatctga tgcgggttcga gggatatttc ccacgtacta ctattatgag 360  
actcctacat 370

<210> 3389  
<211> 355  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-D7  
  
<400> 3389

agcggacgcg tccgcccacg cgtccgcgga cgcgtgggta tcccagctac ctgaagcaga 60  
tatgacgagc atttctcgac gccaaatgat tgccaagact tgcggtagcg atgggaggaa 120  
gagcaggaga agagcttatt tttggggatg acaatgtaac ctccgggtgcg gaaagtgact 180  
ttaccaagc caccagactt gcagaagcca tggtaacgag gtacggaatg acggataaga 240  
ttggcaaatt tgtgttgggg agagaaacag agagtcccga aatgaggagt ctcatcgacg 300  
ctgaaatgaa aaagttgctg gacgaagctt acaatcacgc caagcaagtt ttgac 355

<210> 3390  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium



<223> unsure at all n locations  
<223> Clone ID: LIB190-067-Q1-E1-D9

<400> 3390

atttgagctc tgttttggca ccgttttttg tgggtttcac tcgtgtgttt tgtcttttta 60  
aaactcgaag actatttatt tcttggtatg ttttagagaa ttctctagac tgtgtttttt 120  
gggcttggtta tacgccatgc ttggtggttg gtgattggct ctagagacaa agagtattgt 180  
tactttcccg ccattctcca cagctccaac caccaacttg tatacgcata catatacata 240  
accacatatt actcgagagt cgtggtgtaa aaaacgacaa ttcgaatggt tgaaaaggct 300  
tgataaaaag caaaggacta gtgaagggtg tagagaaagc acttganaaa gggggccact 360  
tccttgata tttgtgcccc tagtaactaa ctaattc 397

<210> 3391  
<211> 374  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-E11

<400> 3391

aggtaggcat ttcgaagctt agcagtcctt gtgcgaagaa tgcatatcgc gtgtgtggaa 60  
aggaatgata tctattggac aatctgttga cgcgtgagac ggaagaatca cccatggttg 120  
gagatatgat actttgtgaa tatccatatg tcgaaatgaa gcgttgatc atcatgcata 180  
atctgagtga gcacgtcatt gaacatggtt tgcaatggga aactgcctgt ggtagccatc 240  
gttcttttcg ctttcacatc ttcgatagtt gtagtatcaa catatgagtt gcctctcggc 300  
gaatacatcg taggtttctc aatcctactc cttacaaggt gtcggtttcc cagacattgt 360  
ttgattttat ccat 374

<210> 3392  
<211> 366  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-E2

<400> 3392

agccccacgcg tccgccccacg cgtccggttg caaagaagaa aacatgtcaa agtttgcctt 60

gcctgcattg ccttatgact acagtgcctt ggaaccacat atcgacacta tgactatgaa 120  
 cgtacatcac aagggccatc accaaactta tgtcaacaat ttgaatgggtg ccatacaagg 180  
 ggaacatggg ggtcagttca aggggtctctc catcgaaaac atccagagga atgctgcaaa 240  
 ggcacctgat gctatcaagg cagctgtgag aaataatggc ggtgggtcact acaatcattc 300  
 cttgttttgg aactcatgg caccacagg gatctgcaaa tagtgcattc cactgtgagt 360  
 tgaaac 366

<210> 3393  
 <211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-E4

<400> 3393  
 agggctatgg gaaaagatta ctacgcaata ctaggcgtag atagaaatgc cgatgaaagt 60  
 gctttgaaaa aggcttatcg caaacttgct gttcagtggc accccgataa gaaccctaatt 120  
 aataaagagt ttgcagagaa gaaattcaaa gaaatatcgg aagcctacca agtgttgtcg 180  
 gaccctgaga agaggaagat ttacgatgca tatggagaag aaggcttagc cgcacaaatg 240  
 ggaggcggtg gtgggtgcaaa tgggtgccaa ggtttttggtg gattctcttc aagtggtgga 300  
 acaacattct tccgaagtac gttcaaagat ccggaagagt tggtc 345

<210> 3394  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-E5

<400> 3394  
 agaaaacgacc aacggcttat ttattgtcgg tggttgtggt ggttggtggt gtgttcttgt 60  
 catgtcattt caaaaagatg aagaaccaca cgattattta ttcaaaattg ttctcgtggg 120  
 cgattccgga gttggcaaat ccaacttggt gtggcgtttc accagaaatg agtttcacct 180  
 cgactcgaaa tccactattg gagtggagtt tgctacaaa acatttcggt tggaagatgg 240  
 aaaggtggta aaagcacaga tatgggatac cgctggacaa gaacggtaca aagctatcac 300

cgctgcctat tatagaggtg ccttttggtgc tttgttggtg tactatatatta cc 352

<210> 3395  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-E9  
  
<400> 3395

aggaagatat ttcaaagctt actattcctt gtgccaagaa ggcatatcgc ttgtatggaa 60  
aggaaggata tccattgggc gatttggtga cgcttgaaac ggaagaagca cccaaagttg 120  
gagataagat actttgtaga catccatatg tggaaaggaa gcgttgatc atcgttccta 180  
ctcgtattga gccgttattg aagttggttt ggaatgggaa aatgcctgtg gagccatctt 240  
tcttttcgct ttgcgcatctt cgagagtttt gtaagcaaga aatgagttgc cttcggaag 300  
accatcgtag gtttctcaat cctactcctt acaaggtgtc ggtttcccag acattgtttg 360  
attttatcca tcgtttgtgg ttggaagaaa ctc 393

<210> 3396  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-F11  
  
<400> 3396

agcttttttg actttggatt tgcacgtgtg ggtgtgctca gtcagaactg cttctcagtt 60  
agttacgcaa tatgcctagt cataaggaac aaaataaagg aattaaaata tcagctgacg 120  
gttacgcact aaagttgagc ggtattcggg tggacgtaga cggcagtttg gtcactatgg 180  
tggacgcaga cgacctcaga gccctcatgt ttaaggaaag cctcaaggaa aagtcaaagc 240  
tgcacgaccc aaaatttttc aaaagctatt atgaggagaa taaggactac ttttattata 300  
tgactcatac ggagaagaaa atgtttcttt ctctggaagt tgcacgagaa tacgctactc 360  
tggtgggaaa ctcgtttctg cagaaat 387

<210> 3397  
<211> 363

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-F2  
 <400> 3397  
 acgcgtcagc ccaagcgtcc gggcaagtcc aacgtcgttg actgatttgg tgggaataag 60  
 ctcccttttgt tgtgggtttt ggatgcaagg cacgtatccg taccgactgt cacttattgg 120  
 tcgtacactt tttcacaagt ctgccccaac ccactttttc aattatttaa gagacagtgt 180  
 tcaaaaagct agacagcaag aagtggatcg aaaacaattt gagttgttaa aaatacagtg 240  
 tgactatatt ttgcaagacc cgccattgaa tccaaacaac tacttagaac tgctgaaaga 300  
 agcaagagaa ctcttaaaat tcaaaggggt ccgcgaaaag tttgatgtag tgaaacaaga 360  
 ccc 363

<210> 3398  
 <211> 347  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-F7  
 <400> 3398  
 agcccacgcg tccgcatcga gacaaaattg tattaatgga cgatatgttt tatgcgggaa 60  
 atgaaaattt gccgtgtctt acttctggtc gcgatgccgt gatcgaaaac ttgaggaaac 120  
 gttttatgcc tggacaaact cgacatcaac gagctcaacg aatgatgaga cttatcgacg 180  
 aaagtatcga taattggcat actagatggg atgatcgata tcaacgtctg tatacgggaa 240  
 ttcattgaga tgtaatgcac aggttgtgga atattatatt cattttgata tataaaacgt 300  
 gtatgtatgg gatatatata tatagatata tatatatatg tattaac 347

<210> 3399  
 <211> 314  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-067-Q1-E1-F9  
 <400> 3399  
 agcacagatt cctgttgata ttcagtggaa gatttgtcat tatatggaag tattgtgtga 60

agaatcgtcc aaagttcccg ttgcagtgat tttaaaagta ttttacgatg aagatttggt 120  
tgaagaagat gtgatattga agtgggtatta ctctgaaaac agaggagtgg gaggaaaagg 180  
tgcaaggaac aatgcttcta tgttggttga gtggttggag aatgctgaat cagaaaagtga 240  
ttcttcagcc tgattgtgtt gttatgtgag tgcttgtttc gtgaaataaa agcgattcct 300  
tgttttctgc accg 314

<210> 3400  
<211> 288  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-067-Q1-E1-G2  
<400> 3400

cacgcgtcag agaaatccgt taaataatcc gaataccaga ttagttgtta gttatttagg 60  
gttgggtgaac actgcttctg caggtttatt cggttatgat aaagagaaaa gcgagaacgg 120  
gatgttggga agttcctgaa aaggggtctt gttccactgc cgttggttgg tggttgggtg 180  
ggagggttttg tggctatgaa aaagtttcac cataagacaa agaaacagag ctttcttcaa 240  
aacgattatg cctgtgttgc agcaaagtgc ggaatgatag gattgggt 288

<210> 3401  
<211> 361  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-067-Q1-E1-G5  
<400> 3401

agtctggaag tgtgctagga ataagcagga gaagtagaag agagtaggaa aagaagaaag 60  
gagagggcgt aagacgtgat acagagtagg aagaaaagag aagagagcta gaaaggagggt 120  
aaaagaagag taaaaggact agaagaggta cggaattcac gaggaaggag cgtgaaggaa 180  
ggaggaatcc caagtaatcg aggaagaaaa agcttcggtg aaagcgtgaa cggattttgt 240  
acacactgcc cgtcaagttc tggaagtgtg ctaggaataa accgagaacc ttacctctcc 300  
aagaaggtgt tgcacggctg tcgaaagaac gtgctgtgaa gtgagagaac gtacgagaaa 360  
g 361

<210> 3402  
 <211> 365  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-G6

<400> 3402

gactccacca gtcaacgatt cgggtgctcgt gctgaacacg tttatgacgt aaacgagaat 60  
 accaagttgc gttttggtgg gaaagttcct cacgggagaa tcggaccggg cacgatatgt 120  
 cactggccgg tatgacgtta cggtttccaa agaagatddd ccgataaacg ttcgtgcacg 180  
 tgcgatatgt ataagtaacc agtgcacggt cgatagtcgt gccaaaaaga agtttgaagt 240  
 ggacgaggac acttctttat tcttcttagc caaagcttgt actcaggaac taacaaaagg 300  
 aagttatatt attggtaaaag ctggagtgac acgtgacttt cgtttgggtg aagacaactt 360  
 tccgg 365

<210> 3403  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-G9

<400> 3403

agccttgtgt gagtgttcct ggagtgaaga cgaaatatga gaatgtgaat gtcgttacag 60  
 ttcgtgagaa tacagaagga gaatacagcg gtttgaaca cgtggtgtat ccagggtgtg 120  
 tagaaatgat caaattgatc acgagagaag cttcgttgcg cgttgctaga tatgcttttg 180  
 aatatgcgaa gaacaatcaa agaaaaatgg taactgcagt tcataaagca acggtgatga 240  
 aacgagcaga tggctctctt ttagaatgtt gtcgagaagt ggctcaagaa tatccgaata 300  
 ttcaatatga agaattgttg atcgatacat gtgctgctcg cttggtacag aatccttcgc 360  
 gtttggtatg catggtgatg cccaattt 388

<210> 3404  
 <211> 223  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-H12

<400> 3404

agtgagtcgt atcatgcgtc cgccacgcg tccgggacgc atgttcggga cccattcgg 60  
cggcgacaca caaccgtaaa tgctgactct caggtcgtatg acggggagta catgacgaaa 120  
ccaagatcac cgaagcccgga gtactatatg gagtactgtg tctgcaagca tgcacgtatt 180  
tctaccagat agtgtaaacc gcgtcccttt tgcataatgt ccc 223

<210> 3405

<211> 381

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-H2

<400> 3405

cacgcgtcag ccttgcaatc gtatcttctc gttgctttga ctgccaccgt tgccgctgg 60  
tttacaactt tagttacgag atacaagcat gtatttagta tgttgagagc tagatggttt 120  
agggacgtgt ttgaagattt gcgcttaaga cttcgagcaa gtgaagccgc cgccataagg 180  
gagagattgg acttgctaga agctaaaata ttgtcttcaa gcaacagcag tagacgttct 240  
gtgcattcgc ctcgtacact tgcagaagag aaacctattc ctgagtggga tctagttacc 300  
agagaagatt tcgttactct tcgaacgaga gtagatgatc tgtccaaaga gttgactagt 360  
atcaagtccc aagctgacaa g 381

<210> 3406

<211> 392

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-067-Q1-E1-H4

<400> 3406

gtaagagtaa aacaattccc aagcccaatt aaagtagttg ttttatattt cgctgatatg 60  
cctttgtttc tcaaaacata ttgaaagctt ttgaatgtgt taaagagact gatttttctt 120  
tatttttgtt ttcgtgctat aatttgttta tgtttcctgt ttgtcgcctt tcttctattt 180  
ctaaaggaca agcctttgaa cacgctgtgt tgttgatatc ttcctacttg ggtttttgca 240

tacgtagtagt tggaggaggtt ggtgacgggg gtatcgactt tegtggaact tggaaaccta 300  
ataaagcaat agagcctgta cctgtcgtcg gtcagtgtaa aacattatca agaaaagttg 360  
gtgttcacgt tatcagagag atggaaagaa tc 392

<210> 3407  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-H5  
  
<400> 3407

agcccacgcg tccgcagaga ccttcacaaa atgacatgaa tgaagcaagt tgctttccgt 60  
aaattgaaag gcattgtatt acataccaag tgtgttgtaa gacttgagtt actgcacatg 120  
ctcctttgga ttgttgcttc cgacaccgtt ttgagtaaaa acttccgaag taactatctc 180  
ttttcttgct cacgaagact tcaaagggcc aaaaacattc gtacttttat tgctgcctca 240  
ctatcaagag tattttagg aaactctgtt ggttccacag tgaatggcac tcacggtaca 300  
aatattcatc caggaatggt tgtacacctt gaagaagagg aaacacaaca tctgagagct 360  
cgtcgaatag aagaaaatca agtgttggag gttttc 396

<210> 3408  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-067-Q1-E1-H9  
  
<400> 3408

agaggatcca gttccttata gtaatagagc agctactttg accaaactag gacaattccc 60  
ttctgcttta gcagattgtg aaaaatgttt gcagctagat cctcaatttg taagagctta 120  
tgccagaaaa ggtgctattc atttctatat gaaagaatat cataagagtt tggatgccta 180  
tcaacaagga cttcaagtgg atcctaataa tgcagaattg aaggaaggat tgcagaaaac 240  
tttgagtgtt attgcagaac aacaacgctc cgagaaacct gatgaagaac aaatcaaaca 300  
tgcaatggca gatcctgaaa ttcaaaagat attgatggat cctgtattac aaaatttggt 360  
acaagaagcg caatcaaata .c 381



<210> 3409  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-068-Q1-E1-A2

<400> 3409  
  
 aaagaacaac gaagcatttc tgattgtcaa ctatccaaag gacgagatga gttgggacaa 60  
 cgatggacag cgccttttga caggcaaaga cttttagtaa tatgtcaagt tgagatgggg 120  
 aaatccttta tttcgtagaa attgctgttg gtatagtaca ggcagtatag tatcttgtga 180  
 cactggaaag gttttacaga gttgggtttc gtgtgagttg ttgagatcaa tagtacgatt 240  
 atttaggctg ttgcactgct tgaagggtta gaattaggaa tggatgaagag tatatcccaa 300  
 ccatctagta atcaagcaac agtagaagct ctagtctcct cgaaaaaact gtattttctc 360  
 aaggatccag taacangaaa gtattggacc gaacgagatt ccaaacgagt aaatccacat 420  
 gtttatcctc aaaaaa 435

<210> 3410  
 <211> 274  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-A3

<400> 3410  
  
 cgcgtccatg gaaaaaaaaa aaaaatcaga atgataaaaa aaaaaaaaaag aaaaaaaaaa 60  
 ataggaaaaa aaaaagaaaa aaaaatagaa aaaagcaaag actttgtaaa aataaataaa 120  
 attgggggtg gggaaaatca ttttaattcgt aaaaaattgg tggttggtata ataaatcgca 180  
 ctatagtatc agtgtgacac tgggaagggt ttacagagtt gggtttcgtg tgacttggtg 240  
 agatcaatat taggattatt taggtcgttg cact 274

<210> 3411  
 <211> 372  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-A6

<400> 3411

agcaaaaacaa caacaacaac aacaaccgtc atcatatctg aaacaacacg tactccacga 60  
acatcgcagt tgggtcgttc ttttaactact tgtactatta aggaacctga cccagtattt 120  
cttagttctt cttttcctcc ataacaacaa tgaaaaaac cagcagatgc ttctcgttgg 180  
ttggaaataa aggtttggct gaattggaac gtatggaaaa tattcctttg cgtgaataat 240  
aaagttgttt tcaacttatt tcttggcata taaaaaaaa aaaaaaaaa aaaaaaaaa 300  
aaaaataaaa aaaaaaaaa caaaaagaaa aaacaaaaa tagcaggaaa aaacaaggac 360  
ggtgctaagg at 372

<210> 3412

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-A9

<400> 3412

taaaataacg ggtaaaacca aacaaccggt taaaaattcg ccctttctaa aaaaatcttc 60  
gacgcacagg gatatgaagt tcccttcaag gtggagccca ttgatgagta ctgcatccaa 120  
caactcaagg aatacgatgg aaataacccg gtttgcgcta tacaggaagg tctgaaattg 180  
gacgaaacat atgaagataa catagagaat gaggaacaaa agaagtcttt cgaacagttg 240  
ttcactgtta ttaacgaaat tcttggagac aaagtggaga atgtggtagt ttccgaaaga 300  
cttgcggaat ctccatgtat ccttgttacc ggtgaatttg gttggt 346

<210> 3413

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-B1

<400> 3413

acgcgtccac ggacgcgtgg gccaatctt caaaagattt tccttcactt gcaaactatt 60  
ttacatcttt gctacatacc aagtgccatc ctgctgcacg caaaccaaca taaaagactc 120

gaagcgacag ggaaatattt actccacttt tgcgtgaacg ggtttttagtc atcctgggtc 180  
ctccccagac cctcgtcttc caaggtaaca atactctgga agtcggggtt cgagtcatca 240  
ggcattattc tgtactctgt cttttgtcgt agcacatttg aagccttgtc ttgtggaagt 300  
aatccttctt cgaaaagtgt acgaaaactg ccttgccaat gtttgtcgtt attatcacta 360  
agataacggt gatgatacac agaagatgct tgaatttccc ttttaaaact 410

<210> 3414  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-B2  
  
<400> 3414

cccacgcgtc cgcccacgcg tccgcccacg cgtccgcca cgcgctccgcg gacgcgtggg 60  
tggtgttgca acagccactg ttttgaaagg tctgggggttg gagttgcttg gttatgatgt 120  
gtttcctaata caagacttta agaatttggg tggtcgatat gtggagttga atgagttgct 180  
ttctcagtcg gatattgtga gtttacattg tccattgaat gagaatacca aacatctcat 240  
ccgtgcagaa acgctttcta taatgaaacc tggagcttat cttatcaata cgagcagagg 300  
agctttgatg gatacgcaag cagtattgga tgctttatat tcaggacata ttggggcctt 360  
ggcaaaggat gtatatgaag gaaaaggaaa cttgtttt 398

<210> 3415  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-B6  
  
<400> 3415

ggccgaccca cgcaaccacc caocgcgtccg cccacgcgtc cgggagaaga gagaggaatg 60  
ttggcggttcg tgtatggaca aggcgggttg atactacaac aacagcaaca acactcttta 120  
caaacaagaa ggtgtttcct aggaaaccaa aactattttg tcgggaagaa taatgctact 180  
gggaaaaaca caaaaacagt agttttcaaa agacgaaaac aggtagtagc tgtacagacc 240  
agtcattgtc acagtctagg ttgcacgagg gaccagaaaa agaatacaagt tgagtttacc 300

caagttcctg accagagagg acacttttgg agatatgggg gacaatttgt tccagaaaact 360  
 ttgtttctttt gtttggaataa ccttacaaag tgttttcgagg aaaccacaga c 411

<210> 3416  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-068-Q1-E1-B9  
 <400> 3416

tttcttgtgc aatattcatg ctgttgggtg catccgtcaa ctaacactat attgattttt 60  
 aatggaatag cattttctta gaatccattg gacagacact cctacacgag ctgggttatcc 120  
 aaaacaagat gtgcccttct accagtgtct atcatcactt gactcatagt gaaacccaaa 180  
 agcttcgttt tcccacgttt gtagatctcc acgttctttg gatacgagca catactagcg 240  
 atattcaact gtcaccaat gtccttatcc gttagctgtt gcaaaccacg ttcacttaca 300  
 atgcatttta atgagccacc tttttccaaa atgaatcgaa ggatatcatt cgcaattctc 360  
 aactgagtg tcatattttc aatgacggag attattt 397

<210> 3417  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-068-Q1-E1-C1  
 <400> 3417

aaaaaaatgt ctgctgaacc ggtgggaaag ttaaactctg gtgcaactat tcctcttcgt 60  
 ggctttggaa cctggaaagc tgagcctgga gtgggtgggtg aatgtgtgaa aactgcttat 120  
 gacgtcggtt acagacactt tgactgtgct gctatatatc agaatgaaaa ggaaattgga 180  
 caagcttttt cagaactttt ctccagagga gtgaagagat cagacatatt tgtcacttct 240  
 aaagtgtgga atacctgcca cgatcctcaa agagtgggtcg aagcttgtaa acaaactctg 300  
 caagatttac gtctggatta tctagacctt tacttgggtc actggccttg caactgggag 360  
 tttatgggtc tgctatttac tgcagataac tggattccta atgataatga tgggaacata 420  
 aagttttcc 429

<210> 3418  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-C11  
  
 <400> 3418  
  
 acgcgtccac gatccgtcga aatattcaag ttgatatcca catacacagt tttagataga 60  
 tatgtatatg ttgaaacgtt ccatttcctc tagttgtaag ttatacagtc aaattctaga 120  
 ttctccaata cgttgtctac ttgttggttc cactccgagg cagtcccatt ggttttgtac 180  
 gtctagtcca cgagatgggg aagaagagga aagcagcgtc gactttgtca agtcttatca 240  
 gaaaaagttc cgatcctctc attctccttt tttggatttg gaagaggaag gcctgaaaca 300  
 aaaggcttct gaagacagaa aagctttggt gagagagttt tacaaatata cagttttt, 358

<210> 3419  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-C3  
  
 <400> 3419  
  
 agcgagcgaa acgcaatctc acggtttctg taccgacaat cgatgaacaa cttcatctgc 60  
 atcaaagtgt caaaagaggc tttcgtccag aagaagaagt atacatgagt caagttaccg 120  
 ttggatcaac tcattttatg cttccagatg aaagaaatat gtatggcttt acgtttggag 180  
 gagttttaat gcgaagagcc tacgaattgg ctttcgtcaa caattatttg gcgtttcaac 240  
 aacgtccaac ggcagtagaa gttggagata ttagctttat caaatctgtt ccagtgggca 300  
 gcattttgga actgcattct tctgtagtgt atacaaaaga tacttatcaa gtagtttttag 360  
 tggatgcgat ggtgaataat ttgatgcacg accctccaac c 401

<210> 3420  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-C4

<400> 3420

accacgcgt cggattgttg gcaacgacaa gagatgcgcg gctgggtggct atggagtttg 60  
ttgttggtct gtttgtgttt gttccacta tccaactccg ttcaacaaga tgaagcgttt 120  
gttcctattg gtcctcttcg tgaaaaggat gagcacgcaa cacagccttc acaacctgtt 180  
gtaaagccac atggtagcaa aactggaag ccgctccagt gtactcccaa caaggaaaaa 240  
gcagaggcat tgatacaaaa ggcacaaaat agtttgagtg cgcttttctc aaaccggttg 300  
ttcaagcata tagacgtcga aagttgtcaa gagtttagag tggtcgaaat aaagcttgac 360  
gaaaaagggt tgaatttga taatggacaa gagcatatca aggaagctt tagaatat 418

<210> 3421

<211> 426

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-C9

<400> 3421

acgcgtccaa gaaaatggaa tttttcaatc aaaatggttt tcgtcgtatg aagaatactt 60  
gtttggatga tggctgccgt gcaactagcg agaacaagaa ttgtgagcgt aactatccaa 120  
atgagaaatc ctatgcagct tccaagaagc acatatgtaa agaattatct aaagtgata 180  
acaactcgtc ttcatccag aaagaaaggg ataccacagc tattcaaaca caagaagcaa 240  
ttatggagca cagatatcat tcaagtaacg acctttcgga ggagagcggc catctaagaa 300  
cccaagatac taacgtgaaa caaatgagc tggcaaggta tttagaggaa gaatatcaag 360  
ttgcaaagaa caatgtgaca gaaaaagtgg atgactcatc aactcgttgt tctttggcac 420  
taatgg 426

<210> 3422

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-D1

<400> 3422

agttaccttc acttgtggtt gggattgttg cgcaatgttc aagtcgctag cttttatctc 60

catctatttg aaatatccac gctgcagtag ctcggtgcaa acaaacgcag cacgaacaat 120  
atggaaacct ttattatcaa cgtatcaaca gagactttat tccggaatgt ccgttgatat 180  
tcggtgggtc acttacaaaa accgaaagtc gtacacttca agtatactaa gtttcaagtc 240  
ttcctattcc acacaaggag gagacacgga gggcaagata cctcattcta aagatatgaa 300  
aggagaacct cagtccgctt cagatgctta cgacaagact tgggctaaag aaaacttcaa 360  
agacatttct gaaaatgcag actccgacag ttccaaaatt tgggagttga aactacgttt 420

<210> 3423  
<211> 307  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-068-Q1-E1-D10  
<400> 3423

acgcgtccac cacgcgtccg taccatcgta tttcatttca cattcttctt gtagaaaact 60  
atgaagtctt tcggaattgc tattgttttc ctaagctttg ttattgcatc ttatgcagca 120  
gttgtgtccg aaatggcatc caatgagttt caaagaggag gatacgctcc ttctccttcc 180  
aaggaatgct gcatgaccac ttgtcaatat gcagaacttt gcccaatttc tcaaccaact 240  
tatagccaag ctccatctta cattccatct cctacctatg gccaaagctcc gtcctacaat 300  
caatatt 307

<210> 3424  
<211> 348  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-068-Q1-E1-D12  
<400> 3424

atgaagatat ttcagtttaa cgtggatatg taaagcagct gttcaggtgg ggttactttt 60  
attatactct agcagacact ggaaccaatt attttcgccg ctttctgaat cttcctatgg 120  
aaattgttcc ggaagctaga aatcaaccta tcagattccc tgggtgttcgt tctttgtcgt 180  
ttccacaaga aggtcaagga tggagaatgg atctggaaga ggagacttcc gacgcgaatt 240  
tcgtggaagt tttggtggat gaaagggatg ttattgtact ttagaagatg gtccttaagc 300

attgttttgg caaccataaa gatttagaaa cttctattac caatcaag 348

<210> 3425  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-D2  
  
<400> 3425

aggcaactgc agtgggaagga aaacaagaaa cagcaaagga caccaagttg aagaaggcct 60  
ttgacctcaa gtcattcttg aaggacctgg cagctggagg tgtagctggg gcaatctcca 120  
agacggcggt cgccctatt gaaagagtga agttgctact tcaagtgcag tattcaaattc 180  
cgcaaattcc ggaggagaaa cggtataaag gcatcatcga ctgttttaca agagttccaa 240  
aggaacaagg gtttatttct ttctggagag ggaacatggc aaacgtcatc cgttactttc 300  
ctacgcaggc ccttaacttt gctttcaagg acaagtacaa cgccatattc ttggaaggag 360  
ttgacaagaa taagcagttt tggaggtatt tcgttggcaa tcttgctgca tggggtgcag 420  
ctggtgggac t 431

<210> 3426  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-D4  
  
<400> 3426

aatcagggaa ttttgtccga gagttgtagt ctccgtcatg tcttctgtc ctccagcagc 60  
ttctttcttt gggtatattg gtgctgcaag tgcccttgta ttttcaaatt tgggtgcagc 120  
ttatggtaca gcaaagagtg gtgttggcgt tgcttcgatg ggtgttatga gaccggaact 180  
tgttatgcga tctataattc ctgtagtaat ggctggtgtg ctaggatatct acggtctcat 240  
cggtgctggt attttggttg gacaaattgc cgaaacgaac tatccatatt ttcttggtt 300  
tgcacacctt gcttctggac tagcacacgg tctcagcggc ctggcggctg gaatttgtat 360  
tggtatagtt ggcgacgcac gcgtccgagc tacagctcag cagccaaaac tctttgttgg 420  
aatgat 426



<210> 3427  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-D5  
  
 <400> 3427  
  
 acgtattttca tcaattcttt gaaggatttg ctgtcggtag tactgtttcc gaagcccagt 60  
 ttggcacttg gaccactata gtaatggtag ttgctattc ttgggaaact ccaatcggta 120  
 tatctattgg tattgggtatt gcacacactt atcaggaaaa ctctcggga tctttgttaa 180  
 cgagaggcat ttgggatgcc atctccggtg gaattttaat atacacagga ttggtggagt 240  
 tgttgactta ttggcttacg cgcaactcga actttttaag acgcaaagcc atacctattt 300  
 ttagtattgt gggatttgtc tggtaggag ccatctgcat ggcgattatc ggagcgtggg 360  
 ccttagaata aaatttgttt gagacgtcgt ggtgcacatg actcgcatgt ttggtagtgt 420  
 gtgc 424

<210> 3428  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-D6  
  
 <400> 3428  
  
 acccacgcgt ccgtgttttt ggttggtgtg ctgtagggca aatatgagtt cctttgatcc 60  
 ggacaagtgc aaacaagaac aaaaagctcg ctggaatcaa ggagctttat ccacgtggac 120  
 cctgtggaaa aaaactcaag tagaagatac tccagcaaag ttcttcctag gcctagtacc 180  
 tattcgacca ggagtgaaaa tcttagacct tgctgtggt agtggggaaa cctcccttca 240  
 agttgctcac ctagtctcca gccacttaaa ggatgaagcc aaagacgcaa agatagtgtg 300  
 cgttgatatt tcggacgaaa tgcttaaagt tctcaaccaa agagcacagg aaatggggct 360  
 agcaaatatg gtggaaaccc gctgtgagga cgccgagaag gtcgactttg gtgcgcacta 420  
 ttttgatat 429

<210> 3429

<211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-E1  
  
 <400> 3429  
  
 aagtatccag aactttatatt gcaactcatg acaattcaca gccacgcca ggagacaagg 60  
 cgcttccaaa caggcgaaaa caaagcaacc gtagaagcaa aactactgga aatgctacag 120  
 agcaaaagag tccttttttg tggccattta agttttaata ttgttattct agttttgtcg 180  
 acgaagttcc ttaattacgg aggcaagagc gtaggggtcg aagccttggt ctaacaactc 240  
 tatcgccact tgtagagttt ctctgtctag tcccgtttcc aaaagtctcg ctatttcgta 300  
 cgaaactaaa gactcatgaa tttttttttc ttataggata taatgcctta ctttctaata 360  
 tttcgttttt cttttcctct cgttgcctca aagacaattc gcgtgtctcc aattt 415

<210> 3430  
 <211> 171  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-E12  
  
 <400> 3430  
  
 aagattccgc tggcacgtat accagatgag atgtgagtc agcagagcca tgcaaagtga 60  
 atggcgctgc agttacatcc aaaatgtaag agatgaattt gtgcagaaga gagggccaaa 120  
 gtgtgtcaag tcttaccata atgggatatg ttttattcaa aagctctcca g 171

<210> 3431  
 <211> 411  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-E2  
  
 <400> 3431  
  
 acggacgcgt gggccgaaca atggatacct acttagggtt acaggagaaa cagtaccag 60  
 tgctttgatt aatatgcaca gtccatttct agatgttaac tgctacagtc tagttgtaga 120  
 caatcttttc agcactcgct gactcatagt atatttgcaa tcttttatcg actccacctg 180

acctcccgag gttctgcaga ggttaccctt tttatcgaaa caaaatgatt tttcgagtag 240  
tgaatgggca ttttaactgt ttctgttgat agacttgagt gttgaaagat tccgcagttt 300  
gtcttattag atacagcttg acaattttgc cggaagtctc aatacgtttc aatgttatcg 360  
actacaatat caatttatcg tgagatggta tgtaaaaccc agtggttttt a 411

<210> 3432  
<211> 253  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-E3  
  
<400> 3432

aaccacgagt ccggaacaag ttttatcggt gctggcagta tatatcttca tcatggatg 60  
tatatatccc aaattttgtt tctcttaaact actgtgcac gatatacttg gttcgtatga 120  
ttggatatag ttgctttgtt ttgctacaaa atacggagag aataaataat agatgtgatt 180  
tccaataaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaacaaaa 240  
aaggaagaag atc 253

<210> 3433  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-E5  
  
<400> 3433

aaagcagcat taccgaggac tggctagaag aacttgaac agttaattga ccttatggtc 60  
ctaccaatac gattgttcaa gtctttcatg accgtcaagt tattcatcga gaattgattc 120  
agcaagttca tcatcctagt gcaagtcata ttccactgac tgggtttgct gcagtctatt 180  
accgtaataa atctagtatt cgactagcag ctcgtctttc aggtcaatat acgattcaag 240  
ttttgagcat ttggctaacc accgcataaa tgatatgatt ggaataagaa cgaattcctc 300  
aatgttaaaa tgttgtcacg ttgtaggaaa tatatttaca caatagaata ctgctctcct 360  
cattggacga ctttgtatt 379

<210> 3434

<211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-E9  
  
 <400> 3434  
  
 aattagttgg gcgcttgtgg tgggtgtgttg gctggcaaatt gagcaaattg gcagagtttt 60  
 gtcaaaaagt accaggactc cgtggactgt acaacttttt agctcgcgtg cagataagag 120  
 gtgtagaaag agaattgcgc aagtactgac tgagatacga tgaccttctc aacgagcaag 180  
 atccggatgt gaaaaaagct cttgaaatgc tcccggaaca tgagaagcag ttgagagcca 240  
 agcgttttat tcgagcgttt gatttgtcca tgaagaagac tcacttatcc gatgaaataa 300  
 cacaaaagga agatatttgg aacccatatt tgagaagtcg catcaagctg attcgtaaaa 360  
 aaaagcatcc aaattgagac tta 383

<210> 3435  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-F1  
  
 <400> 3435  
  
 agataagtct gtcaagttgt ggaacattca aaatgggtcaa gaggagagga cattgaattg 60  
 ttcaggatcat aagaaaggaa atgggtgatgg aataacttct gtttcattta gtcctcgttc 120  
 tccttatcgt attgcaactg gttcgttggg aaagacagtg agagtattcg atgtagagac 180  
 cgggtgaactt ttgcacaatt ttcgtcaaca tgcagattct gtatattctg ttgccttttc 240  
 gagcgatgga agatatctgt tatcaggttc acttgataag aatggtatat tatgggatct 300  
 tgcagctcct tctccaaata actatacaat tttcaaaggc catactgact ttgttttgtc 360  
 tgtcgcattt agcttagacg gtcgtcttct cttgagtggc agcaaaaacc gtactgtaac 420  
 tttctggg 428

<210> 3436  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-F12

<400> 3436

aacaacgcgt ccgccacgc gtccgggcga cagtagagga acggtttcta cgtatacttg 60  
tacgaaccag gactgtagta actggcttga gcaagggtgt tgttcaagta tagttattgt 120  
agttgtagag ggttggtgaa ataaagggga ggagttgtga gacttaaatt cctatcaacc 180  
gtaaccgagg gaggaagggtg tctttctgac agtggacttc agtggccgca ggtaaggaga 240  
gttgacaggg aagttggagt taagtagcgc agtgtttcaa gttttcgggt tggtttcgta 300  
caagtaacgg cactgctcgt acaatgggaa ttcctctgac ctgtcatggc caagtacaag 360  
cgccgaaaaa gggaacaagc ttatatgtgg agttgtgggt cacaga 406

<210> 3437

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-068-Q1-E1-F3

<400> 3437

aattattttc aatctcacat gctttttgtg gcttactgga agaattattca accaaaacaa 60  
tcaagttttg tgtttccttg ttgtactaga tgtgtaaaca ataccagttt ctttcgtttg 120  
tttttcaaga cccgtccaac tagtgtaag tctactgctg tactggcggg agggacagg 180  
tggaatagaa ggtctttgct caagaccatc tctgtcttg ctgcttttcc cgtttttcgt 240  
atttttcctg ttcagtcagc gaataatgaa gaaattgtcc ttcccgatgg agtccgtttt 300  
tggttggtga aaaaagggtat cggaaaagca tatcctgctg tanggtaaga agatatctat 360  
tacgttttcc tgagatatca agtgtacaca gcgaacttgt t 401

<210> 3438

<211> 366

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-G1

<400> 3438

aagagtagta cagtagtttt acacgattgg aagaccatga aaccccagaa cattgtagta 60

aatggttaca tttaaaccce taaaggactt aaaaccggga atctgcaagg aggagaccca 120  
cattggaatt gccaaaaggt ccaagcacta aaattcacca ttgggggaaaa ttgggcattg 180  
ttcaggaat tatgacccat ttatgaggat tggattaatc agacaaggaa tttaaaggag 240  
ggaattaagg gaatttttgg ccaaaacact ttccaccacc accggtaaaa cttttgttcc 300  
aagcttaaac ccacaaaact ggggtgtaaag gtccattctt aaattaattc taaaagggaa 360  
aggaaa 366

<210> 3439  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-068-Q1-E1-G10  
<400> 3439

ccgggtgacg cacgcgtcca gttatagccg gatgcattag cctttggaaa gacagctgaa 60  
gaagttgaga aagaaggcaa tccaaaatgg ttagtgcctc atatggtgtt tactggaaat 120  
cgaccttctt cgtgtctctt gatgcctgtc ttagacgcgt atgttacggg acaacttttg 180  
gcgctttatg aacatctcac agccgtgcaa ggattccttt gggagattaa ctcatattgat 240  
caatttgag tataattggg aaaagtcttg gcaataaag ttcgcaagca gttgaacgaa 300  
agcagatatt ttaataaaga tatctcaggg ttcaatccct ctactacaag tctgctcaat 360  
cgatacttgg aaggttctgt angatgtgct ttcgaacatg tttatcatta tgagtagttt 420  
gtttcgtgtt ttggtggagt tgattttttg a 451

<210> 3440  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-068-Q1-E1-G11  
<400> 3440

aaaagacggt atcgtaacctg atattattat caatccacac gcaattccta gtcgaatgac 60  
gattggacag ttgattgagt gtcttcaagg aaaagtttct gccattgctg gaagagaagg 120

agatgcaact ccctttactt gggttacggt agatgaaata tctcaacagt tgaaagcttt 180  
 gggttatcaa agtcgtggat ggggaacttat gtataatgga ttgacaggtc gaccgttgga 240  
 agcgcatata tttattggac ctacttatta ccaacgacta aaacatatgg tcgatgataa 300  
 aatacattct cgtgctcgtg gccctgttca aatactcaca agacagccgg tagaaggaag 360  
 agctagagaa tgtggattgc gcttttga 388

<210> 3441  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-068-Q1-E1-G12  
 <400> 3441

aagaaagatc tgcattgatt ggacgagttt tgccatttgt gtctttcact aattgcatga 60  
 ccgttgcggt tcatagtccc ttgaacaccg ttattctccg tttgtgcagt agcgttagtt 120  
 gtggaagccc cagaagcgtt ttgactttcc agtcttcttt tcaactgctga agcgtggcgc 180  
 gtactttgat actgttggtc accttggagc gcactattga aagccacgtt acatgttttg 240  
 caataagtgt cagtgtcccc ctctaatacgc tgtgagaatg gttatggaac ttgttgcttt 300  
 tcatactttt ccttttcggt aatgcgaatt acatgagaag ccgctcccta aaccattacc 360  
 tcagttctgc aaacggaacc aacttacaaa acttacagct cgattgaaag ttttt 415

<210> 3442  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-068-Q1-E1-G2  
 <400> 3442

acagtttatg gatgaaacgg aacgttcctt acatgatgct attatgattg ttaagcgtac 60  
 gttgaagcat tccaaggctg ttcccggttg tgggtgctga gaaatggagc tttctaaacg 120  
 tcttcgagaa tacgccagaa ctattcatgg caagtcgcaa ctgttaatct cgacttttgc 180  
 aaagtcgcta gaaattattc cacgaacgtt gtgtgagaat gcacggtttg atgcaacaga 240  
 cattctgaac aaacttcgag cgagacacgc gaacaatctt ccctatgtag gcattgattt 300

gagcaacggc gaaatatgtg acacgtggaa aagtctctgtg tgggaacctt cactactgaa 360  
gtcgaatgtt ttatccgctg ctacagaagc tgcgatg 396

<210> 3443  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-068-Q1-E1-G3  
  
<400> 3443

accacgcgt ccgaagaaaa gaagagaaaa gccgtactga agaccgacac aggtactcga 60  
ggagaaagga gacccaaatt aaggtgagag aatggacgat aaggaactag gcaaaaggat 120  
atggtatctg cggtagaaca tatgaaagaa gcagcaccga ctgttttagca aaaacacagc 180  
actctgcaga aaagagaaaa tgtaaagtat agagtgtgcg gcctgccaaa tagtagagaa 240  
gaaatcgatg aaagtgaaag cgagtaaaag atgaggtata gagaatggcg gtcctaacag 300  
taaggatcca aaggtagcga agtaaataga cgtttgaaaa gcgttcagta tganaggaga 360  
aacgagtgtg gcactgtcta gtcgtccaac tcaacgaaac aacaataact g 411

<210> 3444  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-068-Q1-E1-G4  
  
<400> 3444

aatgaaattg ccaatcgtga cttggaaatt cgaggctcctg gaagtttgat tggaatagaa 60  
caaagtggag atgttggtc tattggcttt gaaatgtata tgaatatatt aaaacagact 120  
ttggatcgac ttggaggaaa gaagattcct gttttgaaag aatgtgaagt agatgttgcc 180  
ataccaagtt atataccaga gtcttatatc aagatagaat ctgaaagaat ggcagcttat 240  
cgaacgttga gtcgagtcac cagtttgaaa gaaatagatt ggatatccga tagttggaaa 300  
tacaaatatg gcgacttgcc tctctctggt tcttttctac ttgaaataac caaaatccaa 360  
ttgttggtta caaaggttgg tatatctgca atacaaatag aagaagagtt tgtgcaactt 420  
a 421



<210> 3445  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-G8  
  
 <400> 3445

```

ccgacccacg catccatgga cagattatgt agcgactcgg tggatcggg caccagaact   60
aatcatgtcc tactacacac attattctac agccatagat atgtggagtg ctggttgatat  120
atttgctgaa atgctcaatc atggaagacc gctgtttcca ggaatgaatg gtttccatca  180
gttagacctc attacgaaga tattaggaac tccttcacca gaagatttgc aacatgtaag  240
gaaccccaag acgaagcagt atttgcagtc tcttcctaga agagcacgaa aacctttttc  300
ggaaatattc gtgggtgcgg atccccgtgc tttggcggtta ctggaacggt tacttcagtt  360
tgatcccacg aagagacctt gtgcgaaaga agcattgcaa gatatttatt tccgtgattt  420
gtatgaggcc gactgtgaac ttgttg                                     446
  
```

<210> 3446  
 <211> 376  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-068-Q1-E1-H1  
  
 <400> 3446

```

aaaaaatctg aacgagctca tcttttggtt ccacagacat gtcgaacgac aatcagtctg   60
ataagagcac tttgaaagaa gcggacgaga agctgcagag tgcagttcat agtggaacag  120
agaaagtttc tcaggtgttg agcgacgtca aggaaactgt gacggagaaa tacaaggaat  180
ggacagcacc aaaaagtagc caagaagaag cacaagaaca agcacaagaa gcgaaagaag  240
aggctaataa agcttttaat gctatgacag acagtgcgag tgccgcttca gaggctgcat  300
cagagaaagc agaaaaaatt aagcaggagt tgaacgagtg aagatacaca gtagttttct  360
cctataatgt tcttag                                             376
  
```

<210> 3447  
 <211> 419

<212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-H2

<400> 3447

agtgaatga aaaacggttg tccttgatga aaaagtgtca acttccggtt ctccctgaag 60  
 acgttgaatc tcaaattctg gaattattag agtatgtaaa ggatgttgct gttgctagaa 120  
 tggtttgtaa gcgatggaag agactcgtgg atgaaaattc ccaattgtgg agacgacttc 180  
 aaggctttac actacaaaa cgactgccaa gtgaagcgga aaagtggat agaaaggcag 240  
 cggaatgtgg gaatcgagag gcaatgggtc ttcttgctt gctctattat tatggatatc 300  
 agagtcagga tgccacagtt ttgtctttga cgtttcttcg aaatagtgtc gcttgtagt 360  
 gcaacgagca ctagtgtcgt tgttgaggta ttataaata aataaatttg tccttggtg 419

<210> 3448  
 <211> 107  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-068-Q1-E1-H4

<400> 3448

atgatgataa gaacaagaaa gctggaggtg cctaaatcgt gagtgtttgg gaatttgtct 60  
 tgtttgtttg ttgtagtacc gcgcacctag taaagatata tacatgt 107

<210> 3449  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-068-Q1-E1-H5

<400> 3449

agagaatgct ggggtggagta gcgaaacaag agaagggaag taaaaggtaa gaaagaggaa 60  
 aggtttacga gagaaggaag tagaaagaag agagtgtgaag gcggcgatcat aatagaaatc 120  
 cgaaaggagt agaagaaaag agagagaaga aagaaaagaa gagaaaagcc gtactgaaga 180  
 ccgacacagg tactcgagga gaaaggagac ccaaattaag gtgagagaat ggacgataag 240

gaactaggca aaaggatatg gtatctgctg tagaacatat gaaagaagca gcaccgactg 300  
 tttagcaaaa acacagcact ctgcagaaaa gagaaaatgt aaagtataga gtgtgctggcc 360  
 tgccaaatag tagagaagaa atcgatgaaa gtgaaagcga gtanaagatg aggtatanag 420  
 aatggc 426

<210> 3450  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-068-Q1-E1-H7  
 <400> 3450

tgaattggag aagatatctt ccttagatac ttggaagctt gtgcttggtta caagacaaag 60  
 agtggataat atgttacagc gactacacaa gctgacgagt atcttgtcct ttttatactc 120  
 gggcgaacaa ccgagagtgg actatatcgt tgctgaggat gaagcaagtt gggaaaagtt 180  
 gtggagagga aaacgcgagg tcattggata tactttggaa gcagctttac agaaaacttg 240  
 tatttgaggaa aaccaattga gggagtggaa aaagaaactc gatagtctag cagacaatta 300  
 ttcgttgggt acgagagcct atgatgcgag aatgtggtca ttggacctca tcgcaactat 360  
 tatgagtgtc tgttttgcag tttttggaat gtttcacaat tctttgggtta ttatgtccaa 420  
 ttgcca 427

<210> 3451  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-068-Q1-E1-H9  
 <400> 3451

gaaagtcca agtcttcctc gatcgaaagt gactcggaag aactagaatg acattacgga 60  
 tatcgtataa tgaaagtaag tgtatgcagt tggttattga tatgtaagag tagagcagcc 120  
 ttagttgata gagaacggtc ctgggatgag agcaggactg agagtgtatg aagactttat 180  
 tattgctgtg gatggcttga ttgtcgagga agacgaagat gagatatctg aatatttaaa 240  
 gaagaaaaca ggacaatatg tcaagctagt ggtttggaac tgtctggatg aagaggaaag 300

agaggtttcc ttgttggtca acgagccaac taaggagagt ggtagtgg gagtgattgt 360  
acgatatgag tcacttttcc acgctacaga atatgtctgg caatgtataa gtgtcgt 417

<210> 3452  
<211> 152  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-A10  
<400> 3452

tcgagccacg cgtcagcttc atcttaacgg tacaacaagt gtattttggt actgcgtttt 60  
gtacggtatg cttcttatta aattgcatct gtgtgttcag ctctgtctcg aattttgtgg 120  
tatgtacgg tagcctctcg tagtctgagg tc 152

<210> 3453  
<211> 244  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-A2  
<400> 3453

aggcagatat taccgaaata tgccagagag cttgtaaact tgcaattaga gaatcgattc 60  
agaaggaaat tgagcttcaa aaacaaagag aggtcaatcc agactctatg gaagaagaag 120  
ttgatcccg tctcatgttg acgaggaagc acgttgaatg agagtatgaa gtttgcaaga 180  
cgttccgta accgatgcgg atgtgcgtcg ctatgagatg tacgcgcaaa acatccaagc 240  
tacg 244

<210> 3454  
<211> 138  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-A3  
<400> 3454

gtcagggatt agaacatgcc tgcgagtaga aagagatgta gcgctatatt tctacctagt 60  
gcaagcgaag aagtctgaaa tacgacttgt agactgatcg ttttcttttt gccaatggtg 120

aaaagagtgt aactcgct

138

<210> 3455  
<211> 305  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-069-Q1-E1-A4  
  
<400> 3455

agccacgcg tccgcccacg cgtccgggaa aaaaaaaggc gcgacgacgc atgctcaacg 60  
tgttgtctac tgctcgatcat ttcgtagcgg tggtcggctt tttacgacga cgacgacatg 120  
gtggttgctt cctgtcgaaa cctttttgta ctagagttga agaacaagga aaacttatag 180  
tatccgaaac cgaagatgat acccgattag atcgtttctt gaaacgccgt attggtaaatt 240  
tgctcagtc ttaattagaa aattatatcc gaaaaggatt tgtaaggata aatgggcaat 300  
tatta 305

<210> 3456  
<211> 122  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-069-Q1-E1-A8  
  
<400> 3456

cggcccgacc cagcgctcag aagtcacagc aagaacgtga ctgggttttg tctcagtttc 60  
gctctggtaa gcaaccgttg atggttgcta ccgacgtagc tgcgacaggt ttgggtaagt 120  
at 122

<210> 3457  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-069-Q1-E1-A9  
  
<400> 3457

agccacgcg tccgcccacg cgtccgcaa aatatgagca agttgacgtt aacattcttc 60  
ttgttacttg gcattgcagt gtatgctatt gcaggacctt tgaaagattc taccgtagcc 120

tcaaaagtca gaggatatag tagtgcttat actccaactt attcatctcc ttatgaggca 180  
 tcatatccta cttatactac ttatccatgg ataaagcctt gtgctgaagc ttgtgccgga 240  
 tgccctctatt gctatcaaca atacaatttt tattatcctt atgggcttga taccctgtac 300  
 tgcaacaact ttgacaaata ttgtccagct ggatatgttc gaccatctcc ttatgaatat 360  
 tcttcttatt ctctgtggagc atatacttca tcttcttctt atgcgactcc aaccta 416

<210> 3458  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-069-Q1-E1-B11  
 <400> 3458

acgaggattc tgtgacgtat cctagaggca tcacggccag aggatataac tcagttatat 60  
 gaagttctta gacatcgagt gcctaagcga gctccaaagg aagcttaatg acctcgaatt 120  
 aacggactat cgtgttcggt gtcaattgga agcttattcc tgtaaaccg caggttttga 180  
 caaaaaattg agcaaactgt tggagcaaag gttgttgga caacttgaag cttctccaag 240  
 ggcatcccaa gcgtctcccg tgggctcttt agaagacca agtgcccgcga agacattaat 300  
 caacctcatt tgcacactga acgctgcgca ccaggattac gacttttagct cgctgcagct 360  
 ttcaagactg aaacgtgtcc aagatgtaca cgcacttcag cagcacgtcg actcgctgt 419

<210> 3459  
 <211> 264  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-069-Q1-E1-B8  
 <400> 3459

aggccaagtc accagccacc gttctcgtgt gatgttcgca agcaaagcaa aagagtggcg 60  
 aaaacacccc gacataagtc cgtggacaaa ctttaaggct tgctttactg gttttggaac 120  
 agctttggca ctttttaccg gttatgttgt tttagaacag gcttattact atttttacaa 180  
 gcctacacag acgcaagtcc ccgagacgaa atcgggaagaa cttggctcct gagtttcgtg 240  
 ttcttgtaaa gttgggacct cacg 264

<210> 3460  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-069-Q1-E1-B9  
  
 <400> 3460  
  
 gcgtcagccc aaacgtccgc ccacgcgtcc gcaagtagcc aatcgacaac gaatactttc 60  
 ttgcaaacat tttcgggtata ttatgtggaa ggaatgctca caaagcttga aagccttggt 120  
 gctttcctcg ttgtacaggt cattttcttt ggagattgcg gagacactag aacaaagaaa 180  
 cattttcacc ggcaccaagc ctttggttatt tttggcaaag atttcagagg atggtaagta 240  
 ttttatgggtg gtgtatatat ctatctatct atatgtatgg gatgattgac tatcgtcgtg 300  
 ggtacgaatt tcacaatggc aagtttggtt tttggcgtcg aacgattcca ggtcatgctg 360  
 ttatcttctc gttcatttgc agcacagtat tttggatatg ctgctcatg taag 414

<210> 3461  
 <211> 253  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-069-Q1-E1-C1  
  
 <400> 3461  
  
 cgcgtcagac caaaattaca caccgcgtgt gggtgaccgt gtctgacatg gacgcagacc 60  
 agtacagtaa acagccatac ttttggccaa acatgttgct acacggagat caagattcaa 120  
 ttttggattc tattccgtta tcaatgcgat aagcacagtg aaacgaacga tataaactgt 180  
 ctgatcagtt ggtaactgtt ttaaaatata tctcccagata catctcccgt ggcgtcacta 240  
 gtcgatgcat gtc 253

<210> 3462  
 <211> 446  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-069-Q1-E1-C10  
  
 <400> 3462

aatttacggg ctcgagcacg cgtcagttgt gtcgtttcaa aaggctccat tgtgggtcca 60  
tcgggttttg ttgactccaa gacacatatg cctaagaact cacggcttgt tcgtagcaat 120  
ctactatcct tttcgaatga aatggaagac ttgaatatag attctagtgt tgcagtttct 180  
agggaaaagc aagttggaag tgcttcttcc tactctttat ggcaagaaac acttgatgaa 240  
acagcacaac aacaagacag cgaatcgctc gtggatgaat tggaacaaat agatagaaag 300  
gaatcggaag atattgcagt agtgaggaat agagaggaag ttagtgccac acctgattca 360  
ttatctttca aatcttcttc cagttcttca cctccaatgg aaagaaaagt tgctcttcaa 420  
gagataaaag atactttcca acgagc 446

<210> 3463  
<211> 145  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-C12  
<400> 3463

cgacgcacgc gtaagccac acgtccgcc gccgtccgc cacgcgtccg tgtgtttcct 60  
tgtaagaata ggagaacaac cttgaaaaat agctttgtag agagaagagt ttgtttttca 120  
gtaaagcata ttggtacttt acatc 145

<210> 3464  
<211> 205  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-C2  
<400> 3464

gcgtaagccc acgcgtccgc ccacgcgtcc gcggacgcgt gggttgggtca gaatcttgg 60  
gtaagcacag gatcgacatt ccgtacgttg tttgctgctc tcgtatctca tcaattcttt 120  
gaaggatttg ctgtccgtac tagtgtttcc gaagcacact ttggcacgtg gaccactata 180  
gtaatggtac tttgctagtc tttgg 205

<210> 3465  
<211> 399  
<212> DNA



<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-C4

<400> 3465

cgcgctcagcc caagcggtccg tgcaccttac catggacacg aatctcaaga atacttacgc 60  
tgctgggtgac tgttgtcgag taagctgata gcaattgggtc caagagttgg tgtaacacgc 120  
gtattttgctc tcaatggccg atatagttag atatttcggc gttggcatta cttgacaatg 180  
gcttgcaata tgtccgactt gatggaaagt tgactttag gcaaagatcg aaagtcttgt 240  
ctagtttcag gttggactag tcagatcgca tgagtactgc aaacattttg cttgtctctt 300  
tgaaggctgg tggagttggg ttaaacttta cctctgcaag tcaggtgttt atattggacc 360  
cattgtggaa tcctgcagtg gaagaacaag ctatcgata 399

<210> 3466

<211> 413

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-D11

<400> 3466

cccacgcgtc cgagcaagcg tgaaccgtga gggtagttca tcatgggtga gacaaaactt 60  
caagatgggtg ttagtgcttc tctttggact gttcgtctct tcctctacac agttatttta 120  
gcattctctg ccactatcat tggcttggat ggacgtaaag cagacaacat atggaacgac 180  
agcttattct atgatgggaa gtacattaac ttttgtgctt attctgcctc ttctgttgta 240  
gaaggagggg accatggagc gtgtaaatat gtcatggcgt tggcgtctat aagtttgatt 300  
ctagtctttt tcttgtggct ttttacattt gtagatgcgt tgtatcctat tcttaccaag 360  
ttttggttta ttgaattggg tatcaacgtg tttcaaaca tgtggtgggt ggt 413

<210> 3467

<211> 205

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-D2

<400> 3467

cgcgtcacga ttcactgcc a tttacttgat ggacagaatg ggaagaagag tgctgtgggt 60  
aactttatta ccaggagtgc tcgttgatg tttcattata ggcttttagtt tccggagcta 120  
gcatcatcca tgggccacga acgaatttac attgggggta ccaatacata atacatgttt 180  
tgcggttctg gtacgcgacc ccatg 205

<210> 3468  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-D5  
<400> 3468

cccacgcgtc cgcccacgcg tccgagctac ttcaactgtc caaagtgttt cagactttta 60  
cagaaaaaca attttctct agcgtctcca agttccagct tccgatcta ccctatgact 120  
atggcgagtt ggaaccttac atcagtgagc aaatcatgag acttcaccac caaaaaacac 180  
caccaaacct atgtcaacaa cttgaatgtc gcattggaaa agatccacaa ggcagaagaa 240  
gctggtaacg tgggtgatat gatcgcgctg caaaagatgc tcaaatttaa tggaggaggt 300  
cacgtcaatc actccattct ttggcacaac ttggctcccg tgaataaagg gggaaggtag 360  
tccccccgat ggaccattct taaaaccagt ggaaaaagaa ttcgggtcat tg 412

<210> 3469  
<211> 165  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-069-Q1-E1-D8  
<400> 3469

ctcgacgcaa gcgtacacat caggtttaga tactcgtga acttatgcat atcattaatc 60  
ggaggaacag ataccaactg gaattcccct agtagcggcg agcgatgcgg gaagaggcca 120  
ctatgagaat cctctttttc gttttgagaa tagaggagat gtatt 165

<210> 3470  
<211> 278  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-E1 .

<400> 3470

cacgcgtcac gcccaagcgt ccgcccacgc gtccgggatg ccataccttat tggtagaagt 60  
agcctattgt attcatgatg tgccacctat atctacctgt gtacgcacta agttctccga 120  
gttttggaga agtcatcacg aggaatggcc caagcaaaag cacatgttgc aagccgatca 180  
aagacaaccg ttgaatgaat tgctcatccg accaagttaa tacagcttga atcgatgccc 240  
tcctccataa aacccatctc gtggcatttt tttttaat 278

<210> 3471

<211> 240

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-069-Q1-E1-E2

<400> 3471

cacgcgtcag aatgaangag aaatggaata tgacaaaaga atgtcgtcag aggaggaaca 60  
agtggaaacc tctacttttg aactttcgag agaagccgag gaagcagcga taaaagcaag 120  
aaacttaacg gaaaggattg aaaagttttt ctggaagagt taccagagcg agaagagaga 180  
tatcgaaaaa atggcttcag acaacgatgg agtgactaac ttcgatgaat cctaattggtt 240

<210> 3472

<211> 253

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-E3

<400> 3472

cccaagcgtc cggcattata ggagtgattg gagatatgga tagttatcag ttgccagatg 60  
ccaagggctt taccaatttg ataaggtatc ttggaggtgt aacgcacgag agaatacagg 120  
aaagaaggga ccaagtcttg agttgtacca acaaagactt ggtagacttt gggtcggtat 180  
tggggaagtgt tgcttccaat ggtagcatac ttgccgtagg tagtgaacaa tctttataac 240  
aagccaatgc aca 253

<210> 3473  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-E9

<400> 3473

gcacgcgtca ggacaaacat ttgtcgatca aaatgcttca agttggcttt tcctagaaat 60  
 attcgatctc atatgatata cagtgcctagt gaatcgagta cggatagtga tatcgaattg 120  
 atatcttatt ccgataataa accatggaat acgagtattc agcaaccaca agagagttgc 180  
 cccaactctt ctactcgtag aatactctta atacttgtgg gtatatcagt gctctggcaa 240  
 gacatgatta tacatggaat tggtaagtaa atgatggtag aaagtgtgtc aggatgaatt 300  
 gcatactcct ctgcaatgtg aaaactatgc tatcgagtaa ttgtctcaa acaagcctaa 360  
 tgttgtgggt agatgtaacg ttaca 385

<210> 3474  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-F11

<400> 3474

agcaaaatcc cgaagggtgg gattgttgtt gtctccagca gcccgtttgc gtctgtcttc 60  
 aaagtataca atttctttgg ttgttatatt tgtgtatata aacttggaat gggaacaaag 120  
 aaacaacata ttatgagcgt ttgtaggtac gagagaaaaa aggggtgtctt caactgttta 180  
 ttttcgatga ccacgctgca accgtacgta tgtagtgtaa acgcggtagt tttgtagtgt 240  
 tttgtgttct gtgaagcctg tctcattaca aaaagtaacg agatacgtgg atttgtaata 300  
 atattagcat tgttcaagga aacttcactg ttactctgaa caagtgggta tagttttcga 360  
 cttgtcaggg aaaaggcaac agcctgacag ttataagttg gaggcgtcac cagtaaa 417

<210> 3475  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-F2

<400> 3475

agcggacgcg tgggaggacg cgtgggaact tgttctgcat gagaattccg accacacgga 60

atctgaaacc agtgctttga atagtcaggt ggtttcgggt cgcacaaacc accaagacaa 120

cgaccaggag cagcatgacc atccatccaa ccttttctac aagttacttt ttggagatgc 180

atctgatgaa gaggaagagc caaagtcgat gaaagcagtt tcctatgaaa gtacgcatag 240

tggaaaagat tccacttcgt ttctgtccgt tgctacatca acaaccgata accggaagac 300

gcaaatatcc gatcattcca ttccatcctc ctccaatata gatatgagcg attctaacga 360

gaaacaacag cctattcaaa gtaatgataa tagtttggaa gaa 403

<210> 3476

<211> 327

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-F5

<400> 3476

agcccacgcg tccgcccacg cgtccgggtg gttgtggagt aagtgcgctt ggcaacaaac 60

taaaagatgg caagaagaat catcggagct taaatgtctg acgctactgt agcgtctcta 120

tttagtgtga aaatgttggt ctaccttaca atacttgcgt tctctatcac tattgtgggt 180

cttatgggta agagttccga cggatatttg gttcacagtg ttccagcgaa agacgaatat 240

tgtgcataca agtcttcctt tcaagtaaac caccacggca tagcttccta ttgcaagtat 300

atcatggctg tagcagctat tggtttg 327

<210> 3477

<211> 421

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-069-Q1-E1-F9

<400> 3477

aggaggttgc ttcttggtca tccaagacga tccttgaaac attgccatcg ttgttattct 60

ccgtccatcc acatgtcaaa tacaactccc gagaacccta gtgcagagag actactagaa 120

tgggaaagta cactagtgaag agagttgcaa acgcttcggt ttcttccacc cgtttcattc 180

atctattctc ctctagagta tgcgtggcct ttgcacgaag aatatgttcg tcgatattat 240  
 cgtccaacag cacgtgtttt attcgttgga atgaatcctg gaccttttgg aatgggtccaa 300  
 agcgggattc cttttggtga tgttggtatc gtcaaagagt ggctggatat tcgtggcgat 360  
 cttgtattca cagcgttacc tgagcgtgtg catcccaagc gacctatattt aggactgcat 420  
 t 421

<210> 3478  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-069-Q1-E1-G1  
 <400> 3478

agaaagccaa gtgaggaaaa gaaggcaagt agagggcggc ccgagaaagg agagggcgta 60  
 agacgtgata cagagtagga agaaaagaga agagagctag aaaggaggta aaagaagagt 120  
 aaaaggacta gaagaggtag ggaattcacg aggaaggagc gtgaaggaag gaggaatccc 180  
 aagttatcga ggaagaaaaa gcttcgggtga aagcgtgaac ggatttttga cacactgccc 240  
 gtcaagttct ggaagtgtgc taggaataag cacgagaagt agaagagagt aggaaaagaa 300  
 gaaaggaagt gaagacgtaa gacgtgaaaa aaaagcgtaa gacgtgatac agagtaggaa 360  
 gaaaagagaa gagagctaga aacgacgtaa aagaagagta aaaggactac aa 412

<210> 3479  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-069-Q1-E1-G10  
 <400> 3479

aggagagaca gacagatggc caacgctggt caagatggcc ttgtgcaagt caacaaacat 60  
 agaaaagtaa agagattgca agaagataat attttgaata gagcactatc acaaccagga 120  
 gatgtatttc tgtgcttttg caacatccag ttgttggtga atgcagaaag agctattata 180  
 ggaaatatta cttgtccaga aagtatcgaa ttgtgtcgtc tattagctgg acatatagca 240

gtttggttcg atgaacattt ggatgacttt cgtttgaag ctatcttggg agcactattg 300  
 tgtacttggt attgtgagtg gaagcgtttt gaaggagaat tggnggtaca agaatggaat 360  
 gaat 364

<210> 3480  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-069-Q1-E1-G3  
 <400> 3480

ggggagggag gaggatgcaa ggttgaaga aaccagtcac aaccgatgct tttgaaaca 60  
 gagtaactta tgtgttgaaa agatatttca acgcacctac tactggagaa gagttgccac 120  
 attcgttggg tggcatgtg accgatgcag atacgttggt acggcacaaa gggctgggag 180  
 aagaaacagc gtattttctg aaagaagacg ctgcgaagtt tgaaaagttg gcaaacagc 240  
 tgaaaagtgc gttgaattca cggaactaa tgacaaaaga acaactcaaa gtggccatgg 300  
 aacagagagg aatacaagta tctgaagagg gtttagagga cttgcttcgt ccaaagagc 360  
 acattcgaat ctcgatgca agtagcagtg gtacgtaaga acaagctaaa gac 413

<210> 3481  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-069-Q1-E1-G5  
 <400> 3481

ccttgtagac agtgtgaagc ttgcagaaag ttgaccaact ttgccagggt ttcgcactat 60  
 gtcgggtcaa aacttctttt gagaagaaac caaatattga gaactaaagt cccgtgggta 120  
 cttttatgta gttcgataaa gtcttcggat ttgagaaagg cagacagagt ttgttttttt 180  
 gtagctgacg cagctatttt gtcaagtagc actagaaatg agttactgac tgcccttgaa 240  
 agtctttctt gtttgaaaag cacctttgga aggttccatt atttcgtcgt atccgatgac 300  
 agtttgaggg aggtggaaag acatatttcc ttgtcagctg gacaagggtt taaaacggaa 360  
 gttttgatca ctctggagg agtcaagtt ttccaacttg 400

<210> 3482  
 <211> 280  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-069-Q1-E1-G6  
  
 <400> 3482  
  
 cggctcgacc cagcctaca gtgagattcg ggatagactg gaaattatgg caaaaccacg 60  
 tgccaacagc agcggtaaaa agatgtgtag caatcggtag agtcaaaaga actgtagtgt 120  
 aaacagacga gtacatacag taacgtgtca agaaggaaca ggaaagcgag agatcagaca 180  
 gacaagggat taaaatgcaa gagatccact acaggaataa gcattgaaag attagatatg 240  
 acatacacat ctaaattgac gcgagaatac actatgaatg 280

<210> 3483  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-069-Q1-E1-G7  
  
 <400> 3483  
  
 aagaaagagg caaatacggg aaagcagtaa aagaagaaag agaaaggaaa aaactgagta 60  
 tcaggaagaa aagagggagt agatgaggaa agaaagatca aagaagtaag agtaagaaaa 120  
 agagtaatgt aaatgaaagc aggaaagtat tgaaaaaaga gaatgtaaag cgcctaactt 180  
 ttgcaaaaat gttccaacca gtgaaagaag aagcaaaaag aaagaaaaag aagttaccac 240  
 gtaagacccg aagctaattg atcctaagct gtccaagcga agtaaggctg aaccaatatac 300  
 tgtggaaaaa gatttggaag agatagcata agggggtaaa ggccaatcaa agctaattgat 360  
 acctgggtact cctcgaaagc tatataagta tcgtatgcac gaaag 405

<210> 3484  
 <211> 252  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-069-Q1-E1-G9  
  
 <400> 3484



agcccacgcg tccgagtggg tatttgcgact cacaggcctg gatggaattt gtcgatcatt 60  
gtctttggga atctagggat tctcatacag cagacagttt agtcgaattt gtgtcttctg 120  
tatgtcttcc ctgagacttg tcagttcttt aacaatagaa cctcctattc tttcaggctt 180  
tttcaattct ttcaatatga tatttttaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaagg 240  
cggaagaaca aa 252

<210> 3485  
<211> 269  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-069-Q1-E1-H1  
  
<400> 3485

agcccacgcg tccgtttggt ctgaatcaag gagaagtttg tacttgtcca tcgagagctc 60  
ttgttcacga gtccatttac gacaagttta tcgaaaagggt gattcaaaga cttggtaaaa 120  
taaagcaagg agatccactc aatttggaga ctatggtggg agctcaagta tctactgaac 180  
agatggataa gattcttcac tatgtggaat tgggaaagaa ggaagggtgct cagtgtattg 240  
ttggaggaag tggaaagaaa gccattgga 269

<210> 3486  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-069-Q1-E1-H12  
  
<400> 3486

gcgtaagtga caataatggt gggctcttgg tcgttattga tgtagacgat gatggtgtta 60  
gtggaaggcc tttgggtatt gtgacagaaa gagattatct tagaaagata gtacttttgg 120  
gacgctcatc caagacaact tatgtaaagg atatcatgac gtctgccaat gatctaatta 180  
gtgtcaacct ttcagcttct cttagcgaat gtatggaaat aatgactcag aaaagaattc 240  
gtcacattcc ggtaatagat agtgaaggca atgtgaaggg aatggatatcc atangagata 300  
tcgttagaga actagtcgaa gaacaacgac atgaagcgaa gaaactgaat gaatacatc 360  
aggggactta ttaagatggg ctccttcgag gcttgaagtg cttttgttga tttgtgcaca 420

gaataaacat

430

<210> 3487  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-069-Q1-E1-H4  
  
<400> 3487

gactcaagcg tacgcccacg cgtccgcca cgcgccgga gtggcagcac gtgtgatgta 60  
tatatgagaa agaaaatgat acaagagaga actatcagtg gccctgtgaa agagagcact 120  
gatgctgac tcagacacac ggtagcagat aggtttacta tagatgtata cattgggtct 180  
aggtacggca gatacgggac cttaatagtg gcatccggat acatgtgccc atgtccaaat 240  
agtacatgan agggtaaaat ccgcttttag cgacgataca cgaaacgggt gtgttagatc 300  
aagatggcca agatgtacca cgctgagaat gaacggtttt cctttgagag agtcgtgtac 360  
gatgagtgaa agtgacagcg acgagagttg tgccagtgc gacaagacga tgaaaccttg 420  
caccaagaga c 431

<210> 3488  
<211> 244  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-069-Q1-E1-H7  
  
<400> 3488

acgcgtcaga ccaaataaca tgtcgacca aaacgcagta ggctctcca acttgataag 60  
gagaaatacg gcttcacgca gttccggttt aactagttct ggtacgagca cctcggggaa 120  
gtatttttcc gcgcgactgt ataacgacga agcaccgggt ttgagagtgg gaccaacgtc 180  
tgtaggggtt tttagctatg tctttaaagc ttttggtgta gttttgcatg tgtgggtccaa 240  
gttt 244

<210> 3489  
<211> 409  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-A10

<400> 3489

acgcgtccaa gcaagcgtga accgtgaggg tagttcatca tggttgagac aaaacttcaa 60  
gatggtgtta gtgcttctct ttggactgtt cgtctcttcc tctacacagt tatttttagca 120  
ttctctgccca ctatcattgg cttggatgga cgtaaagcag acaacatatg gaacgacagc 180  
ttattctatg atgggaagta cattaacttt tgtgcttatt ctgcctcttc tgttgtagaa 240  
ggagggggacc atggagcgtg taaatatgtc atggcggttg cgtctataag tttgattcta 300  
gtctttttct tgtggctttt tacatttgta gatgccttgt atcctattct taccaagttt 360  
tggtttattg aattgggtat caacgtgttt caaacaatgt ggtggttg 409

<210> 3490

<211> 209

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-A11

<400> 3490

atactaagtc gtatcatgag ggtaaatacaa caaagaaaaa gggcgggcgt cccaaaaagg 60  
ttcaaagcct tcataatgga acaggccgac gtttcaaccc ctccaaaact gtctacaaa 120  
cttcaattca aaggactgcc ttttaaaaag gtcaagccgg gaaaaacccg ggggtaaccc 180  
aattaaacgc ccttgaagaa aatccccctt 209

<210> 3491

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-A12

<400> 3491

atgccaatat agaagtgttt tcgaagaatg gggttcgatt tgagaacgat gtttacattc 60  
caacggatga gcctcatggc actattaagg caacgttgtc aaggtcttgc cttgcaaaat 120  
tgtaaagaag cggaaacgag cgaacatatc acataagtga gcaacaagaa catttattct 180

attccgtata cttcattttt tttcatttgt ttcggacatc tcattcttta gcctacattc 240  
 caatcgcaac tcttgtcgaa actctgcgta ctgtacgtcc ttttctatta cgttcctttc 300  
 cttgtattct ggagtttagaa accaagtaac gatgaccccc agaaacgcga ctctgtgtga 360  
 aacaaactgc agattt 376

<210> 3492  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-070-Q1-E1-A2  
 <400> 3492

agataaggag atttgttgtg gtgtgactgg cagtatgcag acagaagcac aggtagcgga 60  
 tagtgcacta acaaacataa gaaagagaaa caccgatgaa gaaagcggag gaggggaaga 120  
 agcgagaaag gagaccacct atggtttagg tgggtgcttat atggatatgg caggcgtcaa 180  
 tggccatgga aatccacatt tacaacatgc caacttacct ccagcaatga gacattttcg 240  
 caacgttgca gggaaaccgg ctatattggc actctctgct ttttcaacgg gagcttgttt 300  
 tcttggtatt gtgaatgtan gactcatttc ttcgagtta ctctctactg tagcacctcc 360  
 agcctttttt tacagtggat tttgtcaaat tgttgctgga atcctaactt ttgccataa 420  
 tgaca 425

<210> 3493  
 <211> 339  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-070-Q1-E1-A4  
 <400> 3493

acggacggtg gggctctccac caagagagtt gcaaagaaac taatggattt actttgaaat 60  
 gtcgcgaaag tgacaatacg acttgcttga gaaaaagcaa gaaactgaag tccgagcttt 120  
 gttactactt tactcggttt ggtgtttgca atgacaagca atgtcgcttt gttcacgacc 180  
 ccgaaaagggt tttcgtatgt cgaaagttaa ttagcggttc atgtatcgat cccaactgca 240  
 cactactgca cactacagaa aaggatacgc ttctgtgtg tttaatgttc ctaagtggat 300

tatgtggaaa ggagaactgt cctttcgttc acgttaatg

339

<210> 3494

<211> 415

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-A9

<400> 3494

aggcttggtt agtactgagg tgagggatca ctcggaacc ccaagtgccg tacgtttttg 60  
caatttctct tgtataggaa agaaagtatc tgagaagaat tcaggcagcg ttgaaaattt 120  
ttcaagtatt tcgcgagtaa taatatgtgc tgaaatattt ttctactact agaggttctt 180  
tttgcttgac gctgtttgaa aacaacggaa tgaatcttgt cctgaccggt cgatatggtc 240  
aagggatgac tctaacaggt atccaatgac ttatgttttc catcgatga caagaggctt 300  
gttgggtaaa agtagcggat atgttttgtg cagatttgtg cgtgcttaag ttgctcactt 360  
tcctgctgac caagaggttt gaaaacctgc agtctaaaga gcaatatgtt ctcac 415

<210> 3495

<211> 350

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-070-Q1-E1-B1

<400> 3495

acgcgtcgac caagcgtcgg ccaaggcttc ggcggaccct tggccggccc cttgggtcat 60  
tcattcagtt ctgccccaac caaccaaaca ccttcaaaga aacttcaagg tgcggaaaaa 120  
gccttattgg tatggtttta aatagatgcc gctaccatc tcttttgtga gctccctttt 180  
gtagtccatt ctttaacaac cacggtgaac caagcaaccc attggtctgc catattatgg 240  
aaggaatatg ctaaagcggg ttcacgttgg ggtagatttc atgactgcac gggcggcttg 300  
gnagtgccta cctctatttt atggggtcct ttatctttag cttgtgcgta 350

<210> 3496

<211> 205

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-B11

<400> 3496

aaggaaaaag tattttcttca agtggcagaa agtttaaag aaaaagtcta ttagataaa 60  
agaaagtatc gaattttgag tcatctttcg ttaccagaac atatccaggg ttgttaact 120  
acggaagcct gtgcttcacg cctacacgtt gtggacatga gaagtgtcag ttttagtgga 180  
atgaaagaaa attcccaaaa atatg 205

<210> 3497

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-B12

<400> 3497

aaccaggcgt cgggattgta cgaatatcc gacatatgtc taggtggcag ctgcatctgg 60  
tacgaaagca tcacagaata taattgagag cttcaagagc caacatgatt gccaaagtcaa 120  
gtgctgttca tcgacgcctt tgtagcctct ggatatttcc attgttcctg gtgttggttt 180  
taccgatcct caagttgcta cagtcggaat gaccgagcag caagccaagt atgccggcat 240  
agatactgat agtcgagttt ttcatttttg tcatcttcct cgggcaattg taaactttga 300  
tgaacgtgag tggatcaagt tggatgata taaacagagt ctcttacttg ttggagctac 360  
aatcgtccca ccttggtgaa gagaaatgaa 390

<210> 3498

<211> 333

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-070-Q1-E1-B2

<400> 3498

aaattatggc gtccgttaca accaaggata atttaatttg gtttgaaagt tcctttccct 60  
taaaaaatcca aaccggagga aacggttggc caaaaaaagg acacganaag tcaatttcnt 120  
aaganagacg cttcaaaaca atctataaga tggcgactca tctagaccct ctgtattttg 180

ccacaagagt gttttacgag attgaatggg aacttggttct attcaccata gtcgctgcac 240  
 cttggtgaca ccaaaataaa aggacgaaca agaaattttg ctatgccaga aacaagcata 300  
 aaaactgagc gactgggttg taaaaacaag cac 333

<210> 3499  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-070-Q1-E1-B3  
 <400> 3499

cccccaaaaa atgttatccg gaatccatac aagttattat tacaataata attatcctaa 60  
 aaggaatcaa cggtataaac cttgtgggtt gttggaattc ttattcaggt gagaaagctt 120  
 taaagatagc ttctgaaata agctattctt tggtagaagt acctgtcata gacccttctg 180  
 ttgatactca agctaccaa caactcgcag acaagtatgg cttacgattg tcatgttctg 240  
 tangattatc ccaagacaca gatataagta gtttgatga gtctacaagg aaacaaggag 300  
 aacaagtact gatgaccgca gtggaaagag cacacgctat tggctctccg atagtttctg 360  
 g 361

<210> 3500  
 <211> 152  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-070-Q1-E1-B4  
 <400> 3500

ccttggttaa aattgtgtta atgaaaaatt gattccggac aaacaactta aagaacaag 60  
 gaattaccaa gacctgaaa attaaaacca attaccccaa ttaccaaacc atccaaaaaa 120  
 attacaaaag gataagcaaa actttaacct tt 152

<210> 3501  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-C10

<400> 3501

acatcagtggt tgcacttggc ggaagaagta ttgcacagtg aacaaacggt tatgagagag 60  
tgtatcactt gtttaggtca gggtagcggt gtatgttcac cttgtgatgg cacgggtata 120  
ttacaacaga acgaaacgga agagctttgt tgttattgta tgggtagaaa aatatctctt 180  
tgtgcagact gtcagggaaa agggttgggtc aaaacagagt tttaaggttg tttaaaaagg 240  
agaataacaa tccttttggga atcggtaaac aatcgaaaac tcacaagtga cttttattac 300  
aaggtgttcc attccttgtc agaaaagtat ttgtaagtaa tttgaggtta gcatcgattg 360  
gcttcataag atgccatcat ttcagaattt tt 392

<210> 3502

<211> 380

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-C12

<400> 3502

actcctatat tagctagtgc ttatacgcat atagctaccg ataatatgct cgatgaactt 60  
gatcgtttga atgttcctgc aataagaata ggaaagcctg tgcataatac tcgcgattta 120  
tggaatatatt ctttggactc tattttggaa agagatgagc gagtcgtaga gaagagaacc 180  
aattttaaga aagcagcaga aagacttgcg caaccgatgc gagggaaaagc aattggatta 240  
gctcatcgag actattccaa atcacttgggt caactagaac aagtagaaat gaatgtaacc 300  
aaagagatac tcgagaaata tcctattgtg ttgagtactt gtgttggagc tggtagaaga 360  
tgtataaaga atatttcggt 380

<210> 3503

<211> 389

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-070-Q1-E1-C3

<400> 3503

cttcggccaa gccttcggcc aagccttcgg ccaagccttc gcaatgaagg aaattaattg 60



gttacaaaag gaattaacgg aaaaaccttt aacctgtttc caattgatca tggttttatc 120  
 ttaccagaca aatttcaaag ctatccttgg cctgtttgga tggactggcc tcaggtaaag 180  
 gacccggttt gcgaagatgt anagagatat gcagaaacgc tagacngtga aatggacgct 240  
 cgtctgatct tggacgaaac agatggcaga ctgtcaaaga atagcttaag aaatttgccg 300  
 ataatgactg cgcttcttca gagagccatg gagaagaacc ttactctgta tgaaatccgt 360  
 tcccttgat atgtccgcca tcccgaac 389

<210> 3504  
 <211> 367  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-070-Q1-E1-C4

<400> 3504  
 aagggaaagg aaaggagaga aagaagaaag ggaataaatg caaagatctc caaagaaaag 60  
 gaagaaagaa aagaaaggga gacacaatta atgaaggcaa aaagcataag gagttgaaac 120  
 ggtaagaaa cccgttagtc caagcagtta aagaaagaat gagtaagaaa aaaaggagtc 180  
 attccaccaa ggggagtana ggcgcaagaa agaaaaccaa aacaattgaa cggaatcgga 240  
 aaaaggggtg gatcacgtaa attaatccga taaaccgaga accttacctc tccaagaagg 300  
 tgttgacagg ctgtcgaaag aacgtgctgt gaagtgaag aacgtacgag aaagcaagtg 360  
 aggaaaa 367

<210> 3505  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-070-Q1-E1-C5

<400> 3505  
 agcagcacta ggaatacgag agataataat aataatagcg atcatagcaa tgaatgcaa 60  
 caagtagttt taagtatatt acacaatgta ctgcagcaat tatcgtccag tctacctacg 120  
 agactacctt tgtatgattg gtggatggaa tgggaatatt tttgcaagga aagaatgcaa 180

caaatacaac ttggcagagt aagagagacc gatcgtcata tacgtgaaca acgagttgtg 240  
 caagtattga gaagaattca aggagaagag gatgaagtaa ctatcgatga aatagaaata 300  
 gcagccaaga cagttgctcg tactatggat tattccgatt cttaatggtc cgatcatgga 360  
 aataagaaga atagatca 378

<210> 3506  
 <211> 283  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-070-Q1-E1-C8  
 <400> 3506

cggggttgtt ttcttggtag cagttgtaca ttcaggatca tcaaagcca tacggatgaa 60  
 agagagattc ttcattgaaa gaagccacat gtaaacctgc agcagcacat gctacatcga 120  
 cgacagaaaa gtctgggtccg gaagccaagt tgaagggaac tgggtgcatag aaacagtaac 180  
 aagttgacta tgcattgtgca gtctgtgtat gttttgtgag ttctgtttga tagtttccag 240  
 ctattctttt ggtagtgaat aaagagaaaa ttttttataa aat 283

<210> 3507  
 <211> 306  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-070-Q1-E1-D1  
 <400> 3507

atatctatgt acataaataa cttgtgtata cattagcttg aaacctggca aagtagtagt 60  
 tgttttgcaa ggtaaatatg ccggtagaaa ggcggtgac gtccaaaact acgacagtgg 120  
 aacgcaagaa cgacctatg gccactgtgt gattgcaggc atcgacaaat atcctcgtaa 180  
 agtgacccga aaaatgagtg agaaaaaggt gaagaggcgt tccaaagtcc gagcgttttt 240  
 gcgcgtcgtc aactacaagc atattatgcc cagcgatat acgttggaact tggccgatgc 300  
 actgaa 306

<210> 3508  
 <211> 367  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-D12

<400> 3508

aaccaagcgt ctgcgaataa tgagatattt tgtttgtatt tattggcctg catcgaaaaa 60  
gaaaatggca aatggaatat tgcgttgctg ttggcagaaa tggcaagaga tgaatgcatt 120  
cgtatgcatt tggagtcgag tgcttttttg atccaacttc atctcctcat gacgaatatt 180  
tatatgaagc tgagtcgttt cgacgaggca tatagctctc ttatgaatgt tgcggaatgt 240  
atagaatcga gcaatgttgg ttatgatttg tccttgggta tcgagttgga tgccttgttg 300  
ggaacgatca tgcaatggag atggaatgaa acattggcac aacaatgctt ggatagttaa 360  
agaagaa 367

<210> 3509

<211> 293

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-D3

<400> 3509

ccctgcctcc ggaattaaaa agggcaatcc cctttggttg gaacaaaaaa ccctaattccg 60  
ggtacctgaa gccttaaacg taatggtgaa cttgaaccc aaaccggtgg aaggtgattg 120  
gaacggtcct ggttgtcaaa caaacttttc acaaagccg atgaaaaagg atggcggtta 180  
caagaagtaa attttgccag tgatggaaaa gttaaaggca aaacataagg aacacatcat 240  
tgcatatgga aagggaaatg aaaagagact tacggggaaa catgaaacgg cat 293

<210> 3510

<211> 316

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-D4

<400> 3510

attggaattc caaaaattgg aaaaaattca accccaaaaa aattgggtat aaaaaatttt 60  
ggaaatgaat tattacctga aggaactatt atatttagac ataaaggaaa aaggtgtatg 120

atccaggcaa agaattgacg cattaataa gaaagtaaca catgcaaata ggtaaagcaa 180  
acgggtgagt acagaggtgt gaaagagtgg aagaacatga aagcacagaa gaatgtaaga 240  
aatggttaga gtacaaacca taaaggaagt aaaagcgga atctgagagg aggaaagcca 300  
cattggaact gagaaa 316

<210> 3511  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-070-Q1-E1-E1  
<400> 3511

cacgcgtccg aaatagacgc tcaagcaata actattcgca tcaatacgat ttatcacgat 60  
atgttccagt agtttgtgaa ataatggaag aacttttagt tcgaggccta tccaaggcca 120  
gttatccttt tgtggttact gagtttggtc ctgacacttc gagtagcgat gatgaagacc 180  
aagaacgagg cagatccagt aaaagtgtac gtcggaggtc tcgaagtggg agcatccgaa 240  
gaagaagaag tgcaagtaga gattcatcag ccgagagagg aaatagcagg tccaataacg 300  
gaagtgacaa tgagagttag cgtccttcgc gactttcgcg agaaaatagc aaaaagcgtc 360  
cgtaattgt atttggtgct ggtggt 386

<210> 3512  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-070-Q1-E1-E10  
<400> 3512

agattagagg acaaaccctt tgctgctttt gtcggagttg gtacaaggat gggaaagcga 60  
acgagaaagg tcggtatcgt tggaaagtat ggaacacggt atggcgcttc tataagaaaa 120  
cagataaaga agatagaaat tgcccagcac gccaaatatt tgtgtgcttt ttgcggaaaag 180  
gattccataa agagaaaggc ggttggtatt tggtagtga aatcttgcaa cagatcaata 240  
gcgggaggtg cgtggtctct gagcaccaca gcagcagcaa ccgtaagaag taccattcgt 300  
cgtttgagag aaatgacaga atcgtaacgg agcaaattt accaacttgg ctgtttgttc 360

gcaacttgca agtgaaactt gctgtttcct ttatcaataa gaataaagag a 411

<210> 3513

<211> 98

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-E12

<400> 3513

gagataagga aaatttcacc ttgaataatt tgggttgaac caacaacaac aacaacaaca 60

acagttacct caccaaaaat ttttcacaaa aaggtgta 98

<210> 3514

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-070-Q1-E1-E2

<400> 3514

gaccacgct ccaccacgct tccgaaggga aattgatttg gtaaggctcgt cttcaaatga 60

gtctatcgag acgttattgc taaagacggt tcctaaagaa atccctactt cgtattgtct 120

cgtgtatgca cttttggcta ttccagtact cgcgctcgac gtgtatttat atcttgccgt 180

actccacttg aactttattg cttcaagcgt ttcggtgatc atcggtacta cagtcggcgt 240

ggtgcttcta gttacgtcgt atcataaaac tgcatatgcc aagtgggtcta agctcgatcg 300

cacaacagag caaccaacca agagctcttt caagggtaat ttgtcnggca tacgaagtgg 360

agttgagagt cacctatggc tcctggaaag attctcggtc agttacagtg taatgataaa 420

caacgcaata 430

<210> 3515

<211> 355

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-070-Q1-E1-E3

<400> 3515

cacgcgtcca cccaagcgtc cgggacattg tcgacttgg taaatgaaaa ccaaaagcaa 60  
aactgggtcaa acttgtgagt attgataatg aattttttga agtagacaca agcattgtat 120  
ccctttctga aacaataaaa aacgtcttgg aagacacgga ggatacagag agcattccct 180  
tgcctaattgt ggaaggacga attcttgcaa aggttatcga gtattgtaga tatcactcac 240  
tcttaaagac cattccgcag tctgaggagg atattgagcg ctgggatang gaattcctan 300  
atgtagatca acaacccttt ttcatttgat tctggctgca aactatttgg atatc 355

<210> 3516  
<211> 352  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-E7

<400> 3516  
agttttggtt tattgaattg ggtatcaacg tgtttcaaac aatgtggtgg ttggttggag 60  
caattgttgt atctgcaaaa aggctacaa gctctgtact agacgcttta aacattacta 120  
aggatattaa tgctattgaa ggtctatctt ggatcaactt tgcttttagc ctattccttt 180  
gtggaattgc aatagcagat gggttggtgg ttggttcaag aagtcagggc tcggggaaac 240  
aaaatagtgg aaatagtaat aatgcgtgag ctggtgggta cttgtgaata gattattggt 300  
tcatgttggt cagaaaataa ttcgttggtt gttaaaaaga ttgtattggt gc 352

<210> 3517  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-F10

<400> 3517  
ccacgcgtcc agctgacacg tgaagcttgc agtttccgag ataagatgac ggaatttaac 60  
gaacttaatg cgaaagtttt cgggtgtgagt tcggacagtg tagagtctca caagtcgttt 120  
gccgatgaac aaaagttgac gtttccctta ttatctgatg aaggcggtaa agtacgcaag 180  
ctatacgggtg taccaaagag catgtttatt atgcctgggtc gctgcactta tgtcattggt 240  
ccggatggta ttgtacgaca catctacaac agtcaagtag gtttcgcaaa ccacgtggag 300

gaggcaaaga aggcgttgga aaagatacga aacgacgctc aaacagcaga agagtgaaca 360  
cactagactg ctttgt 376

<210> 3518  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-F12

<400> 3518

agttgcatga ctgggttact ataaattgca atatcacacg gtgcaaccgc tttatgaatt 60  
gcatgttttt tgagatcaca caaacacttg tacactgaat gaacgacgta tgggtactaa 120  
ctgtgcattt tgtatagata tcaacgatgt caaatatggt aacaactacg atttcccgaa 180  
tactatagaa gaccaagttc atcgcatggg acgactgggt cgtgcagggt cccttggaaa 240  
gtcccatacg tttttcactc cggataaatt ccgtgttgcg aaacaattaa tgaacatggt 300  
gcgagaagct ggacaagaca ttcctcccga tttggctcgt ttgataaaaa catcgtcctt 360  
tggcggtaac aacagaaact tttctc 386

<210> 3519  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-F2

<400> 3519

acgcgtccag gaaaattgtg aaaagtttcc tggggcttcc caaaattcaa aggaacatga 60  
accctaatct gcaggaacgg tttggttaag gtcacaaaa ttatcgatat tctagaagtg 120  
tatcgtgata gtgcgcttgg tttggttgat atctatttga gtggtggttag tcataatatg 180  
caagaaatta tgaaaacgct gactattata agtaccatat ttattccact aacgtttatg 240  
gctggtgtat acggaatgaa tttccctcga atgccagaat tacattatgg atatggatat 300  
actatctttt ggttgatggc acttgtcata gttgggcttg aaatatttat ttttcgcaaa 360  
cgaggttgga tangaagttg atgtatgctg cagatcgaat tgctc 404

<210> 3520  
<211> 298  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-F3

<400> 3520

agnaaaaggt gtgaaagtaa ccaagttaaa accaataagg tgggaaaata acaatggatt 60  
taaaacaact ccaatttaag gccttttaac ccaaaccctt tccttcctcc gcaaaacacg 120  
gttgaaaagt caattaggga actgaaaata gcaaggtcgg cttcctcggg tccttttcca 180  
atcaaggaat tgtcgggaac gggtaaata ctcgtcggaa agcagaagag gggggaatat 240  
ttaagccaaa gtctgaagcc ggaaatattt agaggagact caacaagaac aactggat 298

<210> 3521  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-F4

<400> 3521

caagccttcc agtaatgcag gcaaagaatt gccccattaa ttcaaggatt accacatgca 60  
attaggtaaa ccaaacgggt gattaaaaag gtgtgaaaga ttggaagacc atgaaagcac 120  
agaagaatgt aagaaatggt taaagtaaaa accataaagg aagtaaaagc ggaaatccta 180  
atgctggtgg ttatcctcca ctcctccac cttatgcaaa cgggtgcatat ttcctccac 240  
ctcctcctaa tcaaggaaat atgccatttg gtggagtacg acgtatgtat ggggctcctc 300  
ctcctccacc tcctctcct tatgggtggg atctgagaat gggtaaaaaa aagatatacct 360  
ccttattaac atggaatact agtgtgtttt 390

<210> 3522  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-F5

<400> 3522



acggacgcgt ccgacaacat ccaacgaccc atgcccaatt gttgtttact ggagctccac 60  
aaggtcagtg ttttgtggtg tgggtacctc gttcctttgc catagcagta gcttcggcgt 120  
atcgtattcc tatttatgtg agtcgcttgc tggtagaacg caatagcgtc tatcctcgag 180  
tggactgtag aggaaagtgg tatatcgcaa accaacctgc aatttgtaat ctacctcatc 240  
tatctcgaaa tgcacctatt tgggaagtatc gcatttcgga attggaaaga atggacacac 300  
aacagttgta tgataccatg ataagatccg gtatctcttg tagtagagca aacacgcac 360

<210> 3523  
<211> 378  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-070-Q1-E1-F9

<400> 3523  
agacggcgtc gaataagcaa ttgtgggcgt agaacaatat gttgatacct aaaaagaacc 60  
gaaacgcagt ttattctttt attttatcga gtggagtaat tgtggtgaag aaggacactc 120  
atgccaaaaa acacttgcag cttgacgttc ctaatcttga agttatgaag atatgtcaga 180  
gtcttacttc ggggggatat ttaaaggaac agttcagttg gggttacttt tattatactc 240  
tgactgacaa cggaatcgat tacttacgtc gatatttgaa tcttcctgtg gaaatagtcc 300  
cggaaactct aaagaagcct actagacccc caggtgttcg ccttcgtcg tttccatcag 360  
aaagtcaaga aaagagag 378

<210> 3524  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-G10

<400> 3524  
cccagcgtca aaagcanttg tgttccagtc cttgttgaa tgtcagcaaa ataccgcaga 60  
tacttgaaaa tcgacgcaat gaatctacag gagaactttc tcccatcacg ttgagtttcc 120  
aattggcagg aatatagct cgtgtattta caactctcgt tcagttacaa aatagatgg 180  
atttggcaag tatttttcatt tctcttgctt tgaatgccat tcttggcttt caatgtatgc 240

gttatcgatg taggcctcag tcgatgtcct ctttcaagga tcgcatctga gtgacacaca 300  
ctcacacaac ttgacatgat tattcgcaat gtcacgatt ctccaggaga atgataaatg 360  
tatgtgtggt tgtgtgaaca atgcaatcta tcattctatcg cc 402

<210> 3525  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-G11  
  
<400> 3525

agtctttcan acagacgttg gggtaactcc aaggccaatt caattttaac aaaatccaag 60  
aacttttttg gcaatccaag gacaaaattc aagttcccgg gcaaggaaag ctttttccaa 120  
cccggaaacta acctcaagga acaagaaggg caacgccggg ccaacggcgg tagcaagttt 180  
ccttgaacac anggacaaat ccgtttaana taaacctttt gggaagagaa tgaataattt 240  
cgttggaagc aaggaaactt tttgtttcta cgctgttatc atgtgcactc ttgaacctcc 300  
ttatgttctt tttctagaat tggagacaag cgggtttatt ttccgttgac agctttactg 360  
gaacaactgg aatttgattt ttcga 385

<210> 3526  
<211> 197  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-G12  
  
<400> 3526

agcaganctg aagcgacatt ccaaattgtcc tcaaggggtg tcaaccaagc caaaggatga 60  
attgcaagtt aagttaacct ttgggttttg cttaaaagga ttaagggttaa atcccaagtt 120  
actttggcaa tataattcaa tggaagccaa aaataaacct gtgtcacgtt aatgaattag 180  
cgccaataat ggtaatg 197

<210> 3527  
<211> 248

<212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-070-Q1-E1-G2  
 <400> 3527  
 acgcgtccaa gtaataacag tataattcag ttataaatca agggaatgg aaaggcaatt 60  
 taatccataa ttgcggaagg aatattacac ccaaggatgg aaaaccagga tataaggaat 120  
 ttggaaggag gtaggatgaa tgtgagtaaa atgggagtaa taatagggag tatgggaata 180  
 atgggaatag aatacagtag cgtataagaa catgaggaag aaagaggcan atacgggaaa 240  
 gcagtana 248

<210> 3528  
 <211> 326  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-070-Q1-E1-G3  
 <400> 3528  
 aaccacgcgt cgggaaaaaa ggcaaatacg gaaaagcatt aaaagaagaa agagaaagga 60  
 aaaaactgat taccaggaaa aaaaaaggga ttaaatgagg aaagaaagat caaggaagta 120  
 agagtaagag aaggagtaat gtgaatgaaa gcaggaaagt atttgaagaa gaaattgtaa 180  
 agcgcgtacc ttttgcataa tgtcccaccg attgaaagag gaacccaaaaa gaaagaaaaa 240  
 gaagtaccca ggtaagaccc gaagctagtt gatcttatgc tgtccaaccg aattaaggct 300  
 gaaccagtac ctgtggaaaa agattt 326

<210> 3529  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-070-Q1-E1-G4  
 <400> 3529  
 ggtgtggact ccttgcacgt acaagataaa gggaccttgg agaacgcact aagtcccaaa 60  
 aaagattaac ttccttaaag aaaagttgag tttccaaata atgccgatga ccaagttaaa 120

attggccaag gggaaaaacc taacaacttt ccatctcgga aaaaccggcc gggaaccttt 180  
gctccagatt tggtncaaaa atacgggacc agtcatgtgt tggtacaagg tttgcaagct 240  
tcagtttaaa aaagtgggga ctacaaacaa aggtggaaca atgggggtcag tactatgggc 300  
ttaagaatac ttttatcaag ttacatcgca aactgttttg ttggatagac gaatggtatg 360  
gacttacagt ggaagatatc agaagggatg aagatgaaac acaaaagttg ac 412

<210> 3530  
<211> 367  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-G9

<400> 3530

accacgcgt ccggagtaca tgtaggaatg tcatgggttag ggataagtag tgtaataata 60  
atgggaataa tgggaatgat aaatgtggta agtaggtcat ataaaagcat ggagtatatg 120  
gagaggataa gagaagagag taggggtgtat gtacgaatga gtataataac aggaatgata 180  
tggagtaaag aagtgtgggg atcatgggtgg ataaatgatg taaggaatat aagcatgtta 240  
gtatgctgga tatggttggga agtaatagga ggagtaaaga aggagtacag aggaataata 300  
agcagtatag gaataataaa tataccgata ataaagtact cagtagagtg gtggaatacc 360  
ttgcatc 367

<210> 3531  
<211> 105  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-H10

<400> 3531

gtccgatgac tcttcccatc atcatcattg aaaagtattg tattgcagca aactacttaa 60  
atTTTTgtta naaaaaaac tgcaagggtga ttgcttaatt ttctc 105

<210> 3532  
<211> 325  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-H12

<400> 3532

gtcctagtagc aatccaaggc ctttgccttt ccttggccaa ccaatccttt caatccgttt 60  
agtacttttg aaaaagggtt acaaaattgt aactgttgca aataatttga acgaaaaaaa 120  
ggactgcgac tggtaggttc cttccaaagt gcgcggaagt ggacttcggt gcaaggtttg 180  
ttatgtcgct atagaagtga cagcgttggt gagggaggga aaaagcaaaa gggagtcgct 240  
actgaaagaa gtcctgtttc tacagccatt cccatgggtt atgccgatga atatttccat 300  
cacgtgcaac gttggcgctcc aggag 325

<210> 3533

<211> 374

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-H2

<400> 3533

acgcgtccat caattgttac ccaccaatct ctctctctca cccaactag tagaagaata 60  
tggtggcggt tacttgtctc acagactgtc gttgggtagg taaaacaaac aatattctag 120  
tcttcatgct aacctgtttc gaatttagag acttctcgat tctccagatg tgccaaagcc 180  
aataccgtct cgttgcgacg tagttcccag tggtcacact cttggaggag tgtttcgatg 240  
aactacagtc cctattcgat aactaccgac aaatcagaag gacatattgt tcccgttact 300  
ttttcaagat ttgagtttct tgaaggtcga gtcaccggtc caacgtgagt atttcctttt 360  
actgctcgat acag 374

<210> 3534

<211> 303

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-070-Q1-E1-H4

<400> 3534

accacccag gcaacgttac cccccattg gaaatcgcaa tcctatggaa aatactttgg 60

taccaataca tttaaggtgg actgagggag gacagaatgt tcctgtacct ggaagtttca 120  
ataactggac gcctacaagg atgcagagga aggacaacgg tacttttgaa gtaactgtgg 180  
aagctcctgc aggcaaagtc gaattcaagt ttaatgttga aggtgaatgg aacgaacata 240  
taacttatga aagcaagttg agcagcatga actctttgaa caacgttcaa ctctgtggaaa 300  
tac 303

<210> 3535  
<211> 400  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-070-Q1-E1-H6  
  
<400> 3535

ggccgcctaa gtgactgcgc ttcttttcaa tcctttcaaa tattgagctt ggaccatcga 60  
aatcctcggg atatttttga ataaaaaacg agaactaata tggaaaaata tcgaagagtt 120  
gagcgagcca aaagtccggg ccagactccg ccgaatcaag tacgaataac tgcggcgggc 180  
aaagtgccag cctatgtgga ctatgcagtc aagttgcttc aagaggataa tggcaccgtg 240  
gaaatcgtcg ggctgggtaa tgccatcaat aaggctatca ctgtagcaga aatattgaag 300  
cgaaaagtc ccaagttgga gcaagtaaca aatcttagtt cggtgactat tgaagaccgc 360  
tggaaccat tggaagaagg cttggaccct attgaaacga 400

<210> 3536  
<211> 351  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-070-Q1-E1-H8  
  
<400> 3536

cccacgagtc cagcaagcgt gaaccgtgag ggtagttcat catggttgag acaaaaacttc 60  
aagatgggtg tagtgcttct ctttggactg ttcgtctctt cctctacaca gttatttttag 120  
cattctctgc cactatcatt ggcttggatg gacgtaaagc agacaacata tggaacgaca 180  
gcttattcta tgatgggaag tacattaact tttgtgctta ttctgcctct tctgtttag 240  
aaggagggga acatggagcg tgtaaatatg tcatggcggtt ggcgtctata atttggnntc 300

aagtcttttt cttgtggctt tttacatttg tagatgcggt gtatcctatt c 351

<210> 3537  
<211> 273  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-A1

<400> 3537

cccacgcgtc cgagtcgtgg gtgcttggtc tggttgctca acgtgtgaaa tggcagtagt 60  
tgaagataac agagtcgttg ttggtggtct tccttggtca gttagtgaag aagaccttcg 120  
tgaaactttt tccaaatatg gagaagttgt tgatgcaagg gttggtgttg aacgtgaaac 180  
tgggcgttcc cgtggttttg gtttcgtatc ctatgcagaa gggtccgccg tagacgaagg 240  
cattgccgca ctggatggca aggatatgca agg 273

<210> 3538  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-A12

<400> 3538

gaaaatcctc accaagaaac cacttggtaca gcatagaag aaaggataca tagaaacaaa 60  
ttgtttcaaa atgccatgaa tgccttggtc tctctcatcg aaaagaatgg caaggccttt 120  
caactactct acagacatta ttaaggaga gatgcctact tgagtggagc agaacacaaa 180  
gtttctgggtc agtcccaact gtctatcaac gatagagaa gattcgctca ggactttgat 240  
atatttcccc actatgttca actggaaact ttgagagaaa cctgttgga tacggtcaac 300  
ggctacgacg aacgaaaaga ccacagaata tccgtggaat tgaatagttt agaagaatgg 360  
atacgttggg tgggtgatgat tgcttattat gcatttgag atgaaacctt tgctc 415

<210> 3539  
<211> 269  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-A3

<400> 3539

tcaggcgacg agtccgcaga ggggttccttg tagattcgat gcgtccatgc agtgtttcag 60  
agaaatggaa tttttcaatc caaatgggtt tcgtcgtatg aaggatactt gtttggatga 120  
tggtcgccgt gcaactaggc agaagaagaa gtgtgagggg aactatccaa atgagaaatc 180  
ctacgcagct tccaagaagc acatatgtaa agaattatct aaaggtgatg acaacgcgtc 240  
ggcattccag aaagaaaggg ataccacag 269

<210> 3540

<211> 275

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-A5

<400> 3540

gacgttggtta gcgacgactg tgtgagagac tacttgtaag tgcttcattc gagtagttga 60  
aatatgacga gcaagtgtca caaaacataa aacatagagt tgcatgtgtt acggatgtga 120  
cacggaggag gcagccaacg tgaggttgat agacgaccag cacaaaagag ggcagagaag 180  
cacaagaaaa atgttcaggt ggacggggag aatattgttt tgaaaatgga aagggacgtg 240  
gaaataatgc acgaaagggg agcagcagcc atggc 275

<210> 3541

<211> 287

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-A6

<400> 3541

cccacgcgtc cggcagtcac taaggaagct ttgtaccaca agttttcaga aaacaaatga 60  
gaattcgagt aaaacgagta gcgttggtat cttaggaagt gttctaattg gtgtatttag 120  
ctgacttgga atgtgtttat gttactagtc tttggttctc gccatactat gtttacagcg 180  
taacgttgca aagataggtt gaacgtgcac cgccaatggt tttttttggt tataaagttg 240  
ttgaacataa gaaaaaaagt gaaaaaagaa aagaaaaaag gggacgg 287



<210> 3542  
 <211> 303  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-071-Q1-E1-A8  
  
 <400> 3542  
  
 aaccacgcgt cccggatagt cgagagggaa aaagcccaga agccaggata aggtatcaaa 60  
 gtaaagaaag aaggaaaagg agaagaagag agggtaggct tagaagcagc agaccagaga 120  
 ggaaagcgtt aaagcatgaa agaggggaaa tccgaatgag aagagaaaaa ggtaagaagg 180  
 aggaccgaat cagggtaaga ggtagaggag caagaagaga agagagaatg ctgggtggag 240  
 tagcgaaaca agagaaggga agtaaagggt aagaaaggag aaaggggttac gagagaanga 300  
 agt 303

<210> 3543  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-071-Q1-E1-B1  
  
 <400> 3543  
  
 ggtcgagggga cgcgtcagag tcaaacaacc ggcgtcgaag tccggtgaca ttcgaaatag 60  
 gacgtcggtc aaggcaaaca gtagtcatac gaatgataag tcttccggaa aagggcgaga 120  
 tggaagagaa ttcagaaaag acaatcgctt acgtaaggag tggggtgcca agcatgccaa 180  
 tagtcaacac acggtgggca aggacgtgaa gcaaacta tcacaagaac aagtgagcaa 240  
 ctccgaagcg agaagagagt tacgctcgag ctcaatcat gaaagtgata caaccaatgt 300  
 tacgaggatc ttcgaaacta tcaaagtggg gctgcaggaa aaccagtgag agtgagaaaa 360  
 ctgtcgtctg aaa 373

<210> 3544  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-071-Q1-E1-B10

<400> 3544

ctgaaatttc tttgaccgat gttagtcatt attttgatgc cgatccaacc aagtttagtac 60

aaagtttgag agcagacaag aagaagccgg tatcttatgt tgcagacacg acaacagcga 120

atgctcaagt tagaagcctg gacgaaatgg ttcgtttgga cacaagaaca aaactttctta 180

acccaagtg gtatgaagga atgctttcgt caggttatga aggagcgaga gagctgagca 240

agaggttgag aaatactatg gggttggtctg cttccgctgg agcagtagac aattggggtt 300

atgaagaggc aatgagact tttatcaaag acgagaacat gaggagtcga ttaatgaaca 360

tgaatcccaā ttcatttcgt caaatgatta gtactttggt ggaagccaac ggtagaca 418

<210> 3545

<211> 320

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-071-Q1-E1-B3

<400> 3545

ggtcgacgac gcgtccgccc acgcgtccga gcaggcatgc agtggaaca gggaggagag 60

gaacagaggg gaacgagttc gagagcagag gagcagaagc aacgttgcca aagacgagag 120

aatcgagcgc tgcagagaga taagagagta gtgtttacgt tgggagaacg aagggaagcc 180

ggctgttatc tccctgagga gcgcattctt tgtcaacatt gtgaggctgc tgtangaggt 240

gggtttcaag aggagggtag cgtcgtcctt tgttcgaatc actgactatc tcaaggagta 300

cgcggatgac acgcttggtc 320

<210> 3546

<211> 404

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-B5

<400> 3546

gccactgcac gtgttggttg ttggggcaac gaaaaggata agagaggaag gggcaatgca 60

tatatgaagg aatggaggga aaatcttggt taggagacac cctaggaaaa ccgccaata 120

taaaagatat acagcaagac aaggagaacc ttttagaatc ctggacggaa acgagctctt 180

catcaagaat tgctcaaaag tggggaaagt taccgagtag cagtttggtt tagctacact 240  
 ctccttctac tagtattgct cataaagagt ctctctcgga tgagaacgat aaaaatcgca 300  
 tcgatttgga acaactattg cattcgacaa agtccctttc tatttcggac agccgctatc 360  
 ctttcaaaga cgaaaaaagc accaaccatc gacaacattt atta 404

<210> 3547  
 <211> 113  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-B6

<400> 3547

aatttctggc ggaagaagac atttcatttc attgtgtgga gtttgagggtg tccatttctc 60  
 tcgtgtgtg tcgcgcactg ttggtttcct atttgtctct tatatatact gca 113

<210> 3548  
 <211> 294  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-B8

<400> 3548

cccacgcgtc ggctgacgcg tccgcccacg cgtccgcgtc caggaggcaa gtctcttctc 60  
 atgtggtagt ttccaaata tcctttgtgg aaacgtgttt cgtctactca cggaagagta 120  
 ttgcaccagt tactacgggc ggtgtgtgat ccacagtaaa gtataatagt cctttgcagt 180  
 tgagtaaagc agagatatgg agagcttctt atccaactgg gagcagaggt gcctttgcag 240  
 aacaaaaggc acagcagcag tcgaaagaag gtgaagaacc ggaacgcctt atca 294

<210> 3549  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-C10

<400> 3549

cgatgttctc ttccatccaa ctttgactgt aattattgtt acactttagg acataccgtc 60

ggagccttga ttgaaggtgg tcgcactggg cttgttgcaa cggtagctca cttaaacaaaa 120  
 cctcccgagc aatgggaagt tggagggttat cctttgaccg tcatgatgga catcgagagg 180  
 agaaagggaa agaacgttcc cgtcatcaaa aaggcgttgg tggatttgaa aggcgaggca 240  
 tttcgcatat tttctgagca gcgggactcg tggcgtttga cagaagatta tcgttgctct 300  
 gggcctattc agcatttcgg tccgatggca gattcgatca acttcacttt gatgtcggaa 360  
 gcacgagata gcaatgagta gtttgtgggt gagaataata ctctcgttga aataaat 417

<210> 3550  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-071-Q1-E1-C12  
 <400> 3550

cccacgcgtg ggcccacgcg tccgcctcag cagtttctcc aggttttata gtacttgttt 60  
 aatgtccaat gttgtgagca agtctccctt acacccaaca gcggttcttc gttctggagc 120  
 agcaccaagc ctgcgcttat tctctgggtca aagtggaaga ggtcttgga gtttttcggt 180  
 cttcaaagaa cctattgttc cattcaatac cttttctacc agtgggttta gcaagggtga 240  
 ccaggaatct gacgccgact tccagccaaa gttaagagg cctgtctctg ccaatataaa 300  
 tgacgtcatt aagcagcaag tagaaagttc cgatgttggt ctatatatga aaggttctcc 360  
 ttctgcacca atgtgtggtt ttagctttta ggtggtacan atattgaatg ccttggggg 419

<210> 3551  
 <211> 314  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-071-Q1-E1-C5  
 <400> 3551

gtgatgaatg gaaactggca attttcgaga cttcgtgtac gaacggaaga cttgctccag 60  
 aaagtcaatc aacttttgaa cgattgtaag ctgcagaaa gcttttctga agattggaaa 120  
 gaaagtcttg ggtaagttgg agaagtgta tggacgaaac gagaaacagt gaacgggtca 180

aagggagcaa atatatgaaa agtacacttc cattgtcacg ttagagcagt tgctaagaaa 240  
agatttagaa gtgattttat gttcattctc aaagtcgctg gtaaagccta aagttgttgc 300  
gagggagagg cttc 314

<210> 3552  
<211> 325  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-071-Q1-E1-C7  
<400> 3552

agaaacggag agaaggttat cggactcgta taggaggta tcggaagcgg tacacagttt 60  
acaaaagttg caaacgcaga tggaaaattt gcgaggaacc aaagaatggg aacaagccga 120  
tgcgttgta caacaagcac agcaggtttt atcacagacc tcgaaagttt aaccagacaa 180  
agcaatgtat tgaaactgcg tcgacttggt caagatgccg gcatcgtaat cgaatccttg 240  
ggttacaac aatcgttgca ggacttgcac cctgtcttga gtcagataaa gaggttttcc 300  
gcgagggggg aaaaaatggg tcggg 325

<210> 3553  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-071-Q1-E1-C8  
<400> 3553

cccacgcgtc cgeccacgcg tccgeccacg cgtccgacaa acctcaagtg ggtcatccca 60  
cgttggtaaa gatagacttg tctcaaggca gcttgaaagt actccaagac tgtgacagag 120  
atttagaatg tgatcagaat agcaagtttc agttggaact tattcagtat ggtctcgttt 180  
cacctggttt ttggacgaga gaaaatgttc tgctcttcta gttggagctc gtgtcaggtg 240  
tattcataag ggacactctc taccttttct acaagaaagg tgaagaacat ttgtttgcga 300  
gttgaatgct gttgttgag acacaagttt cactgtatgc agacataaaa gcacgtggg 360  
agaagcgaca ctttatcggt tgcc 384

<210> 3554

<211> 409  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-071-Q1-E1-C9

<400> 3554

cccacgcgtc cgccacgcg tccgcgagc cgtgggtaga aagaagagag tgtaaggcgg 60  
cgtcataata gaaatccgaa aggagtagaa gaaaagagag agaagaaaga aaagaagaga 120  
aaagccgtac tgaagaccga cacaggtact cgaggagaaa ggagacccaa attaaggtga 180  
gagaatggac gataaggaac taggcaaaag gatatggtat ctgcggtagg cttagaagca 240  
gcaaaccaga gaggaaagcg ttaaagcatg aaagaaaaga aatccgaaaa agaagagaaa 300  
aaggtaaaga agaggaccga atcagggtaa gaggtanagg agcaagaaga gaagagagaa 360  
tgctgggtgg agtagcgaac caagagaacg gaagtaaaag gtaagaaag 409

<210> 3555  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-071-Q1-E1-D10

<400> 3555

cccacgcgtc cgacagtga ccctgtggaa aaaaactcaa gtagaagata ctccagcaaa 60  
gttcttccta ggcctagtag ctattcgacc aggagtgaac atcttagacc ttgcctgtgg 120  
tagtggggaa acctcccttc aagttgctca cctagtttcc agccacttaa aggatgaagc 180  
caaagacgca aagatagttt gcgttgatat ttcggacgaa atgcttaaag ttctcaacca 240  
aagagcacag gaaatggggc tagcaaatat ggtggaaacc cgctgtgagg acgccgagaa 300  
ggtcgacttt ggtgcgcact attttgatat gggtatgagt cagtttgag ttatgttttt 360  
gcncatctt gtggaagact tggcgaggat tcgcggtatg atgaaaccgg gta 413

<210> 3556  
<211> 99  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-D5

<400> 3556

taatgggact acatgtcggc atgtcatggt tagggataag tactgtaata ataatgggaa 60

tcctcggaat cccacatgtg gtaagtacgt catataaaa 99

<210> 3557

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-D6

<400> 3557

gtcgagaagg accacagaat gtttggtggt ggtcgtttga ctgctgcttt ggtttatcgt 60

ctgaccogaa atttttgttc caaagtatta gaagatactc ctagttgttt tacagcaaga 120

aagacagtac catctgtcga gtgcttctgc agtcaagga agtcctaag tcttggtcga 180

agttgcatat ccagttgtgg agaatactcg tatgaaagct ttggtgaaag cggaagctgc 240

accaggtttg gtattgcgtg atgatattgg aatagcttct agtggaagta ccgacgtatt 300

ggataggaga ggtaaaacga gtagagggtg aacacacgtg catatatatg tttgggatga 360

gtggagcaaa agcactgtt 379

<210> 3558

<211> 378

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-D7

<400> 3558

cagcgcttgg gagcgaaact ggttgctaata ttggcaaagg aaatcgaaaa gcgtagtaaa 60

caaggcaaat cctcgtttga agtttggaac gaatgttttag acttggtgc cgaagttgga 120

agagcacata cgagttgctg aagagcagaa ctttcggaac agttgatata acgagcgagt 180

gctaccgatt cttctgtcgg aaacattttg aaacagtgtc aaacgctgtt tcttttacat 240

ttgattgaca aacagtcgac tttcttgctg tagaattgct tatctcctcc agacgcagag 300

gggttgcatc gagtacgagt cgagctttgt atgcaacttc gagagcaggc acggcctttg 360

gtggattcctt ttggaata

378

<210> 3559

<211> 377

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-D8

<400> 3559

agagaaacag ttcctgtagt gatgggtagc gatgattgga tacggaagcc tatgtttcctt 60

cttcgcttac tgactgagaa tactcttaag agattggaag ttaccatat tgtgacattt 120

gatggttcct tgtagaagtg caacgttagt tgttcggtaa tattaggaga taagtgggaa 180

ccagatagtt acatattttt acttcagaat gcggagagac tcggacacga gcctgtggca 240

ggttcattcc tgcacgagt agtttgtcgg atgaagtctg agagagaaca gaataatgtg 300

agcacgctaa caagttcttg tcagcataat cagccagtgt tgaatttagc ccgagtgtcg 360

aaggaattgt ttgcggc 377

<210> 3560

<211> 412

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-E11

<400> 3560

cccacgcgtc cgaacaaaag ttgttttcag tagaagggtc atgggaccac caaatcagaa 60

tcaaagatgt tgcaaagaaa acagaccgcg ttttgttga ttacgacgat attgcgaagc 120

gttatcgaat gaaactttta ttgcctccac ctgaagcatt agaagaaacc aattcgttat 180

atgtatggga aggctgcact cgagctatct tagaaggaaa ttctaggctt gcagccgaag 240

agaaacataa agtagaagaa gaacaacgta gactacgtcg agaaaggatg caacaaggaa 300

ttcagtggga accaaaatat tttcgacgct catctgatgg agaaggctat gaatttcgtg 360

aagaaactgc agaaaaattg tttcatgggtg caagtaacat gtcttcatca ct 412

<210> 3561

<211> 196

<212> DNA



<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-071-Q1-E1-E2

<400> 3561

tcgaaagctc ccggtccgcg tgtgaacata aaaaagttga ccctcgtaaa gtccaattta 60  
gcaccagcgg tttgtagata gagaaagcgg tgctggtgac gacgccagcg tcgctagttt 120  
gggttgctcg aatattggaa agagcgcttt gtggaacgct ntatttggca cctcatttga 180  
tgttgggact gatcgc 196

<210> 3562

<211> 332

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-E5

<400> 3562

gggaaatggc gcgagtcggt tcctccgtct tgcagcgttg ggacctcaga gaagatgctc 60  
aagtattctc cctcaactat tgggtataaaa acaggtttcc ttattcttcc atggatagaa 120  
aaactttatc aacaggagcc gggcagtctt ctaccgagaa gaaacctccc aaatgagacc 180  
acttggtttc tgtcttcata gatggagaag aacgttgggt accgaagggt ggcactattc 240  
ttcaagcttg tgagttttca cgagtagaaa taggtcgttg gtgttatcac gagcgtcttg 300  
gcgggtgggg gtaattgtag gaggtgtctt gt 332

<210> 3563

<211> 334

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-E6

<400> 3563

aaccacgcg tcggacagaa cattcatcaa ctacgtcgct atgaactaaa ctagcagtat 60  
gaataatttc agtaatttct gcaagtcttc tgtgaaaaa tttaattgat ttttctttct 120  
tggttgcttt agcaacgaag aagaggatag ctggacgtaa tcttttccct ccagcagtaa 180  
ataagtgttc agctgtaca tctagtattg catgttttga cgtaacaagc gttgttaaatt 240

taattttctaa taaatttaaat tcgtgttcta taagttgaaa tgtgtctatc atgaattaga 300  
 ggtggagtggt gtgagttaag aagagagata taat 334

<210> 3564  
 <211> 262  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-E7

<400> 3564

accacgcgtc cgctcgaggt tggtttcgcg aggatgattt ccgtgcaccc taaatattac 60  
 ttttatatac aacctataac atggagcaca agtccgagat gtgtggtaaa gaaacagaag 120  
 tcaaccagcg ttcgacagag atgggatagg ggtgataagc atagctctcg tccaatgggc 180  
 aagcgttttc acatatggtt aaagtccctg acaagtggag gggatattca gcggtcaagt 240  
 gggggtagtg ggggtctgttg gg 262

<210> 3565  
 <211> 250  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-E9

<400> 3565

cttggccaca gaaaatgacc gggaaagtgc agagtactta cttgtgtgag agacaatgga 60  
 aaactaggag ggttttttagt tgtccttttg tttcaataca tacttgaggt tttataggaa 120  
 gaaaaaacat ttgttggaag ctacttggtt tttttattta ggcttggtga aaagtacaac 180  
 aatttttttt ggagttgctc gttcgacaat tctacggtat ctgggtttctt cttccccttc 240  
 tcctcgtctg 250

<210> 3566  
 <211> 443  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-F10

<400> 3566

tcccggctcg accaacgcgt acgcccacgc gtccgcccac gcgtccggaa aaagcctcct 60  
gaacaaagta acagtacagc agttgacagt tcagtttctg tgtaccagag gagagataca 120  
aatactcctc agactctttc taatatgatt ggaagggatt ttgaaacgca aggaaaaaga 180  
atattgcgtg agtttggttt gcagtcgatt attcagcaga cgccatcgtt taggaattct 240  
attgtgtgtc actcagttgg tagagatgga ctgattgttc cttattatct catagagaag 300  
atgaaaatga agcgtcaact ggaaaatcta atagcacaac gacgtagcgg gacctggaca 360  
gtggaaggaa agaaaggaaa agttgatgta aagaaatatt actggacggc taacgagaag 420  
aataactttt tcagacttgt gaa 443

<210> 3567  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-071-Q1-E1-F12  
<400> 3567

gaccaacgcg taagaggatg acgactgtga gcactcgtgt catcaagtac aactggaaag 60  
ccctgtcttg tattggaaag cagcaacaac aaccaacaca agccttttct agtgtgcaat 120  
atctcaggaa gagtgggttaa agtttctagt atgtcctgtt tccaaacaaa ctttgtacta 180  
tgactcggaa cgcgatgaat tattcaacca atcgataaga tatccaattc gtgatgggat 240  
acctttgttg actccttggg atggaagtgt cgttgaccag ggagaacaag tagcttcgac 300  
aaaagaacaa caacaacaac aacgagaata gtagataaag aaccatcttg tgtgctctgt 360  
gaaagatata gagctcgcta tttgtccctc agataagaga gcactcatag actaggagat 420  
agccaatgca tg 432

<210> 3568  
<211> 151  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-071-Q1-E1-F3  
<400> 3568

acattggaac tgacaaaagg tccaaacctg acaagtccac actcgcgaaa attgggcaat 60

gtacagggaa gttacgcgca gtaatgagga gtggagtaaa cagaaaagga actataacgg 120  
cgcaaggaac ggaagttatg gcaaaaacac g 151

<210> 3569  
<211> 320  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-071-Q1-E1-F4

<400> 3569  
ggtcgacgac gcgccacccc acgcgtccgg gaaaggatat ggaaagtgct ttgaaagaga 60  
tagccgacta gatggtgaca cctgtgaaaa ggtatttttag cgatctgatg aacctcccg 120  
cgttggtata acccacgttt cgagctttgg gagtncggaa gaatgcggga gcgagaanga 180  
ggtggcgtga aatattatat gggaccaaag gattggagca atatgttgca gctgctattc 240  
tgcatggtga aagttgtgaa caacaagatt catccactgg gaaaccgttg gtagatgtgt 300  
tatctgacaa aggtatatta 320

<210> 3570  
<211> 297  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-F5

<400> 3570  
acggacgcgt gggtatcagc agccaagccg caaagcgaag caccaaccag aggggaaaag 60  
tcgtcttgtt gtggttttta ctggacgctt gtgcgcactt gacaacagaa cttgcctttg 120  
tataccactc ctttaagcacg ggcgtcggac gagccacaca ctggactgcc ttgtggtgga 180  
aggaatatgc caaagctgat acgagatggg gtcgttttca ccattgtact ggggcgatgg 240  
aagtagttac ttctctcctt gtggggtcct ctagctctcg ggtgtgccta tgggtgtg 297

<210> 3571  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-F6

<400> 3571

gagaaagaag aaaacgtgag cgatgcatcc gtcgagcaag tacaacagag actgcacgag 60  
ttgttagaaa acctggatac gttggaaaga caagtttccc aactagagta cgacagttgc 120  
cgcaaggaaa ccaaccagga cgtgcagcaa ctcttaccac aatgcaaata cttgggagag 180  
tatttgttac aactagctct acaggtggac gggttacaag taagagccta gttgccttgg 240  
tatatactcg tgtgatacat ttggtcctag atttctagag aaagtgcgca aaaggctttt 300  
cgtgggaaga gacaagaaca ggcaagggaa attaccaggc tagtgtctca acgaaggaaa 360  
accaacgaac gagtgcaact attgct 386

<210> 3572

<211> 334

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-071-Q1-E1-F8

<400> 3572

accacgcgt ccgagacacg ataggagata tggggataat gttagggaga ggtaagggat 60  
atgtgagtta gggaagtgtg tcgtatgggtg taatggagag tgtggtaatg gaagaggata 120  
agataatggg aataatgata agaatgggag taatgacgaa atcatcgag atgggcatgc 180  
agacgtggtt atcggatgcg atggaagggc cgactccagt cgggtgcagtg agtcatgcag 240  
cgacgttagt gacggcggga gtgtatgtgg tgataaggat gggaggaata atacgaggaa 300  
ggggaagagt gagangaatg ggacgagggg gtat 334

<210> 3573

<211> 296

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-F9

<400> 3573

cccacgcgtc cggtcgtgta ccgcaaagag tcgtagagtt tcaaaagcgc aaggcggaag 60  
gctactttac atacaacgcc gggaagtacg accgatacat caacacacct atttacctgt 120

ttgtgtcctt caccggtctt tatgccttta ttgacggttg tctttgggcg gcaggaaaga 180  
 aggaaagtca atcgtgaata gcgttttttg tccttgtgga cagtcttatg aactagtgat 240  
 tcgtttgttc tgccagtttt agtttcttgt aatgaaagtt tccttttttt ccttgc 296

<210> 3574  
 <211> 296  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-071-Q1-E1-G1  
 <400> 3574

agaaaagttg agtcaacgca ccctcatggt acaacgcac tagaagaaac aaggaatcac 60  
 aagtacagct gtgtgatgga gaacttgtgt agtttcttgt gctatcgatc ctatacgtgc 120  
 aacgattcat ttctgtcaatt tgaaccgcac gttgatagca atgccttgcc agacaatatt 180  
 taggtactgc gttgtttttc ttgcaacggt tttctcttag tccttctctc gcttttgatt 240  
 tagcgcaacg ctcttatact ttctcggttt gggatcgct aacggaagaa atatgt 296

<210> 3575  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-071-Q1-E1-G10  
 <400> 3575

ccggctcgac aacgcgtacg tagctgtttg gtgtgtgtgc ctattactgc gaaatacgtc 60  
 catgaagctc tcgaacaaat aaaagaggca aagcggttgg gagcggacct ggtggaactc 120  
 aggttggatc tcctgcacaa cttggaagat gagtggaaac aactagttaa atactgttca 180  
 gtaccaaga ttgttacttg tcgaccgcaa tgggaagggtg gaaaatatag cggaccagag 240  
 tctcgtcgtt tatccattct tcgtgaatct tgccaactgg ggtgtgtgga atatgtcgat 300  
 gtggagttgg aagctgtcga aaagtttgaa aagccggcga attgttctag catattgata 360  
 ttatctcgtc actcgtggga tcgagctttt tctcgagaag aacttgcgac gatatactcg 420  
 tccatgcttt ct 432

<210> 3576  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-071-Q1-E1-G11  
  
 <400> 3576  
  
 agcgaaactg gttgctaatt tggcaaagga aatcgaaaag cgtagtaaac aaggcaaatc 60  
 ctcgtttgaa gtttggaacg aatgtttaga cttggctgcc gaagttggaa gagcacatac 120  
 ggagttgcta atagcagaac tttcgggaaca gttgatacaa cgagctagtg ctaccgattc 180  
 ttctgtcgga aacattttga aacagtgtca aacgctgttt cttttacatt tgattgacaa 240  
 acagtcgatt ttcttgcgtt ataattgctt atctcctcca gacgcacaaa agttgcatcg 300  
 agtactagtc gaactttgta tgcaacttcg agagcaggca ctgcctttgg tggattcttt 360  
 tggataacca cctcatctat tagctcctat tgcctttgat tggatagaac ataaca 416

<210> 3577  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-071-Q1-E1-G12  
  
 <400> 3577  
  
 tcccggctcg accacgcgta cggagtaaac agaaaaggaa gtaaaaggag ggaatgaagg 60  
 gaagttatgg caaaaacacg tgccagcagc agcggtaaaa cgtgtgtagc aagcgtagag 120  
 cagaagaact ggggtgtaaag gtcgagtagt agagtaagtg taaaagggaa aggaaaggag 180  
 agaaagagga aagggatgaa atgcagagat ctctagagaa aggcaagaaa gaaaagaaag 240  
 gaagacacag taaatgaggc gagaaagcat aggaagtga acggattaag aaccctgtga 300  
 gtctatgcag taaaagaaag aatgagtaag aaaaaaggga gtcattccac caggggagta 360  
 aaggcgcang anagaaacgc aaagcaattg acgggaatcg gaaaaagggg tggatcacgt 420  
 aaattaatcc gataaaacga g 441

<210> 3578  
 <211> 144  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-G3

<400> 3578

gagctcagggc caatactcga gaattgagag atatgaatgt gaataaacca gtcctcattc 60

atgtggagtg gcagtagggg cgtgggttatc ctccagcaga gaaagcgta gataagtatc 120

atgggtgtag gagttttgac attg 144

<210> 3579

<211> 213

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-071-Q1-E1-G4

<400> 3579

cggacttcgg gagactgcta ccgaaaacgc tagtttttta gtggagacgc gaaaatagcg 60

agcgagtata agctttcaac gtgctggcca agtacaagtg ttgtgcggat caggtaagag 120

cgcgttttaa catataacga gagatagatg tatcgtcaac aatagaaact gagagacttt 180

tatgcgtcga cgcgggggan aagctgttct ccc 213

<210> 3580

<211> 301

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-G6

<400> 3580

aggaaagcca cgttggaact gagaaaaggt ccaaacaaga gaagtcagca gtggggaaaa 60

ttgggcaatg tacagggaag tatgaccagc taatgaggag tggagtaaac agaaaaggaa 120

gtaaaaggag ggaatgaagg gaagttatgg cagaaacacg tgccagcagc agcggtaaaa 180

cgtgtgtagc aagcgtagag cagaagaact ggggtgtaaag gtcgagtagt agagtaagtg 240

taaaagggaa aggaaaggag agagagagga aagggaagaa atgcagagat ctctagagaa 300

a 301



<210> 3581  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-G7

<400> 3581

cccacgcgtc cgtcttgggt cgtcgcgttt tggtgacaag gaaagataaa tggtcgtcaa 60  
gtaggcaacg atatccaact cgcgttattt actaaccact tgtttgtgtg tgtttctata 120  
gaacagaaac ctgtagtttt tcaggtttcc gcatctaccc cggaaaaggc actcgatttg 180  
tgcgcgggga tggcaaactc ctcattctta gtaaccgcaa gtgcagatcc gactttcata 240  
tgcgtaggag accggcagag ttgaattgga cgcagttgct atcgaagaat gcacaaaagg 300  
ggagagcagg aggagacaca tagaggacgt cgtacgcgca aagttgcggc tgtggcgaaa 360  
ccggtcgaag gcgcgtcgt 379

<210> 3582  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-G8

<400> 3582

aagaatagag tcgctggata cggaagccca aggcattcac agtgcccaca aagaattgga 60  
aatgaatttg gacacagcgt tggcccaaca aaaggagttg gacggatatc ttcaaactgt 120  
ggagaatcag ttggaaaaat agtttgtttc ggtgggcat atgggatcga cctcagcgga 180  
ttatgaaaga gaagaaatgt atcgaactgc taccaaattg gcatcggaat tggagacgat 240  
tggaacttca ttgagagaag tggcgccga tatacagcaa atgaacaaac cggcggaaga 300  
tcgagtagtt ggagagattg gtgccatatt ggatgcacat cgcaagtcgt tgggag 356

<210> 3583  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-H11

<400> 3583

acttgaagtt ggatgaaaca ggaacgcggc tgattcctca gtttgacttt gtttcttatg 60  
cagctccaga tactccacaa tgtggatatc tttctaccat caaaaagaaa agtgataagc 120  
ctgtttccgc gcaacaagac aaccacagca gggacaacaa caacagtcct aataataaca 180  
acaatagtca tccaaggac gatatacaaa atggagagaa cagtgtacag gacattacat 240  
ctaatacacac tatgaacaat aataataata gtcataatag caatatggaa tcctatcagg 300  
aaccagacta tgataaatat attcaaggta gttcataaag aatttttttt tacaacacaa 360  
actgacaaac a 371

<210> 3584  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-071-Q1-E1-H12  
<400> 3584

tcccggctcg accaacgcgt acgcccacgc gtccgttcat tttgttacat cacctaaaga 60  
aaacataaga gagaatatat aaatgggctg agtgagaacg aaaacagtaa aaaagtcggc 120  
ccgagtgatc atcgaaaaat actattccaa gctgactctg gactttcaaa cgaacagaag 180  
aatatgcgat gaagtagcac tcattccttc caaacgactg cgcaataaga ttgcatgttt 240  
tgtaacgcac ttgatgaaac gtatccaaaa agggactgtt cgtggaatat ctcttaaact 300  
acaagatgaa gagcgtgaaa caagaatgga ctttgttcca gaagtttcag ctatagatgt 360  
gggtgaagtc aagatcgatt ccagtgacan aaatatgttg gaatcgttgg gttaataaaa 420  
atctcctaata gtggtggtgg aa 442

<210> 3585  
<211> 300  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-071-Q1-E1-H5  
<400> 3585

acggacgcgt ggcttggaat cgtcgctgga caagtaagaa taacaaggat aaacttgcca 60

aaaattcagc ggttcaacaa caggaacgca aatcggaacc acccaaggag aatagtgttg 120  
 taagaaatca gtctcttgga aagcaggtag cgtctcattc caatcctcca gtcgacaata 180  
 agaagcgtga ggagaaaccc aaagtggata gtccttcgag ggatgcaaaa gacagatgga 240  
 atcatgaacc tcctcatcca actaaaaccg ctattggaga cctgtcacat acaccgacaa 300

<210> 3586  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-071-Q1-E1-H6  
 <400> 3586

aggtcgctgc aggtatgtta cgtggtgatg ttcaacagac gcattggctt gagcatgaag 60  
 agtgggtaaa cgtgacggag acaaacaaag ttaaagatga gaaatgtatt ttaatcgatg 120  
 ttagaaatcc tgaggaagta cagtccgaac ctgtaccgaa tgcacagaat attccagttc 180  
 gtgatattcg aagtcagctt gataagttac cgaaagaaaa ggaaattgct gtgtgttgtc 240  
 gctcggggca gcgttcttat ttggcatcca gaatgtgaag tcagctgggt tttcatgtga 300  
 aaaatatttc ggggtggcttt ctgtcgtatc gagatgtgaa ggcaagtgcc gagattcggt 360  
 agtggaggtt gagccttggt tg 382

<210> 3587  
 <211> 351  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-071-Q1-E1-H7  
 <400> 3587

cccacgcgtc ggctgaggcg tccgccacg cgctcgccca cgcgtccgca agaaagtaac 60  
 cttcgagtag tccaatcttc tttggtggca agctgtgtcc tcattctaag tataatctgt 120  
 gccattcatg cagtaggagg cgatgagata agaagtttcg agagaggata ccaaacagtt 180  
 gcaccaactc agacgcagca atgtcaaaag atttgtgtca gcgccacaca gagtcaagtt 240  
 caaagttgta ttataactca gagacaggct ccgtgcatgt cgcaatgtgt cacagcattg 300  
 ggagggaccg gcgataaaga cgtggcggaa tataagcagg tgtgctgtga g 351

<210> 3588  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-H8

<400> 3588

aaaagcctaa gagagagtga attaggcaag caaaggcatg agagaagtat aatagcagaa 60  
 gcatgcttga agaaaaagaa agaggcaa at acgggaaagc agtaaaagaa gaaagagaaa 120  
 ggaaaaaact gagtatcacg aagaaaagag ggagtagatg aggaaagaaa gatcaaggaa 180  
 gtaagagtaa gagaaggagt aatgtgaatg aaagcaggaa agtatttgaa gaagagagtg 240  
 taaagcgcgt accttttgca taatgtccca gcgagtgaaa gaggaagcaa aaagaaagaa 300  
 aaagaagtag gcaggtaaga cccgaagcta gggatatcta tgctgtccaa gcgaagtaag 360  
 gctgaaccag tagctgtgga aaaaga 386

<210> 3589  
 <211> 200  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-071-Q1-E1-H9

<400> 3589

gcgtccggct tgtctttgca aatctacagc tttgtgttct tttccatacc atttttcata 60  
 actgcttggg tcttgaagtc gaaaatctgc agacaaatca atgacacgaa tattggaagg 120  
 aactcgcgag atatattctt gactagtctc atgtggaaga caacagaaaa gaacttgtaa 180  
 actgtttata agtttgagat 200

<210> 3590  
 <211> 252  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-A1

<400> 3590

cccacgcgtc cgagaattag aagccgctct ttccaaggca gagaagaatt tgtcccaagt 60

tcaaaactcg gaaactggtg aagattggtt tgcacctcga gatattcgca agagagacag 120  
 tggaagagga ttgaagcttt tataaccact attcagtagt agttgttggg ttgaaactag 180  
 aaagaatcgt attgctgctg ttgatataata tattgtatct ttggtattca aatagtaaaa 240  
 tataatgact gc 252

<210> 3591  
 <211> 318  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-072-Q1-E1-A5  
 <400> 3591

cgaccacga gtacgccac gcgtccgcc acgcgtccgg gggaagagag gaatgttgc 60  
 gttgcaatga ggatgaggag ctatgatgag ttcgcatacg attgtcatcc cgattctcgt 120  
 ggggtgtgga attggctgct ctgtcctata ttggatatca gctcagacac atgccgagtc 180  
 gccctctata ccccttagaa tacagctagt ttccgctcgt cgaaaagaca gttgtttcgc 240  
 ttacgccgct gctgttgccg tttgcaattc tcacatcgga aacatcgatc aacttgcgtc 300  
 tggtaaagtt cgtccatg 318

<210> 3592  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-072-Q1-E1-A6  
 <400> 3592

agcccaacca aacgagaaac ggggggagga gcacatttta caggggaata ggggttgaac 60  
 gatacaccaa gagaaagtgc ggtgctttat aaggaccatt tgatcattct ttgcatcctt 120  
 ggttttttct attgttgtgt tggcagaaat cctacgagat aattttggag catattccaa 180  
 gcgagggag agtgtccaac gccgtgaaaa tcttcggtag cgtcacgtcc tatggggata 240  
 tatatgtgtg agagagagag agagaaaagg gggatgcaag ctttcataac gaattgcgtg 300  
 gaaaaaaaaag catgatggat agcctaccag cgactttgag gatggcgtct tcacctcctg 360  
 ggtgatcttc caggaaatcn gtgacggcgt aaactttttt 400

<210> 3593  
 <211> 397  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-072-Q1-E1-A8  
  
 <400> 3593  
  
 agcaacgata acacaggtgt ctaggcaaaa tggatggaca agcaaccaa cagccaaata 60  
 acaacataaa gaatagtatc taatagaata tatctttcca atgaagaaca ggagccaacc 120  
 acacaaaaca cacacaccaa aaggatgaaa aacgacgac cattgggggtt ttcattgtgt 180  
 cttccaccag agacgacatc tcgacgagta gtactgtgaa aggtcaagta tgggcagagt 240  
 ctctgatga agaaaccaag cagtgtttgc aatctttacg ttccaaagta caatcgatgg 300  
 acttgactcc aaaagagttg gaatgggtg acgacgctt tctcttgaga tatttgcgcg 360  
 ctagaaataa tcatgtggac aaggctttgg agttgat 397

<210> 3594  
 <211> 342  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-072-Q1-E1-B1  
  
 <400> 3594  
  
 acgcgtcagc acacgcgtcc gccttgttgt gtatccttgg atggtttcca cctcatatcg 60  
 actagttcgt actacaacag tttctttcaa gcgtggatta tcgcaagcag tgaaaagcga 120  
 tcaagctact tctgcttcag aagcgctca agtttctagt gggggttccg ccttacatcc 180  
 ccaggaaata cccaaagatg ctgtcaagtt ttcattgaag ccttttgcca ctcacctcat 240  
 cgaagctcca gaaccggtt cttatgctac gaaagaacag ttactggcat atcatcgcac 300  
 gatgacagtt atgaggaggt ctgagatcag tgctgatcta ct 342

<210> 3595  
 <211> 362  
 <212> DNA  
 <213> *Cyanidium caldarium*  
  
 <223> Clone ID: LIB190-072-Q1-E1-B3

<400> 3595

cccacgcgtc cggcaatttt attgcagcgg ctgagatgga caagttgagt attggttcgg 60

tagactttca aggaaaacgt gtcgtttgta gagtagactt taatgttcct ttggataaac 120

aagtaagtat tgggtgccaat attccacata cacacacaca tatatatata tatatataga 180

tggatagata gatggataga gagagactaa cttgtgtata tagacaggag caattaccaa 240

cggccaacgt gtggatgcaa ctcttcctac catcaaatat atattagaaa aaggagcaaa 300

aagcatcgta cttctttccc atttgggtcg accagaagga aaagtggaca aaaagtattc 360

gt 362

<210> 3596

<211> 277

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-B4

<400> 3596

gcgtgcactc tgacggtatt tcaacatggc tcatcacagt tcatcacgat cgtgtgagag 60

cttcgctttg gactgttcat cgcattcctc agacagttat tttagtattc tctgactcta 120

ccagtggatt ggattgacgt aaaccacaga acatatgcaa cgacaacata ttctcatgaa 180

gggaagtata ttgaactgat gcgcttattc agcatcatct gatgtataat gaagtgacta 240

tggcacgtgt aaatatatca ttgagttcgc gtctata 277

<210> 3597

<211> 359

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-072-Q1-E1-B5

<400> 3597

cccacgcgtc cggaagagaa ggaagaagca gagagggact atgagcgaga aggtggatag 60

tcgagaggga aaaagcccag aagccaagat aaggtatcaa agtaaagaaa gaaggaaaag 120

gagaagaaga gagggtaggc ttagaagcag caaaccagag aggaaagcgt taaagcatga 180

aagaaaagaa atccgaaaaa gaagagaaaa aggtaagaaa gaggaccgaa tcagggttaag 240  
 aggtanagga gcaagaagag aagagagaaat gctgggtgga gtagcgaaac aagagaaggg 300  
 aagtaaaagg taagaaagag gaaaggttta cgagagaagg aagtagaaag aagagagtg 359

<210> 3598  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-072-Q1-E1-B6  
 <400> 3598

cggacgcgtg ggttcagttt gatccacga agagacctg tgcgaaagaa gcgttgcaag 60  
 atatttatatt cctgtatttg tatgaggccg actgtgaact tggtgcaaag cctttgcctc 120  
 ggaacgagtt tgcatttgaa gcgaagaagc tttccaagga tgaaataagg atgttgtttt 180  
 taaaggagat acttgagtat catccggata tcaagaacga gcttcaaggc tgtgagcttc 240  
 actatgaact tccttcgcaa gcggaagctt ttagacaggc agtcaaatacc aagttgggag 300  
 gtaatcggtt gagaaactat gagtcgatgc cgaaagagaa gttgtcgcat cacgtatcgc 360  
 gtgcttacia tgacatatta gt 382

<210> 3599  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-072-Q1-E1-B7  
 <400> 3599

cccacgcgtc cgggaccaa aaatggcgct tagtctcgt gtcgtgtgg tttcacggcg 60  
 ccttttttgg tattcaaggc cttggagact ttttgcaact gacgcgggaa gtggaaagaa 120  
 tgcaaccgat gccaaacact cggagatggc acaaagtcaa ggagtttcgg aagctgcgca 180  
 agaaagtggc tccggggaaa ctacctact ggaacagaaa cttccacctt tggacctgtc 240  
 aaacttggtg aaaggctgac atccaaaaga caccgaagt tataaggagt ttcaaagaag 300  
 acttgaagag ttcgaagcgt cgttccaagt agagcatgtc ccggtgaact ttgaagagct 360  
 gaggaagaaa gtgcgttttc ct 382



<210> 3600  
<211> 358  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-C3

<400> 3600

acgcgtccgc acacgcgtcc gcaaagctct tccttatatt ctttgtgctt ggacaatggt 60  
tgcaaagact gctctgagtt gcctctttct ctctttcctt atcgtgccc cagttgcagc 120  
cgacgtagtt tcagaggaga gatggggata tgctcagcaa acccaacaac agcaacagtg 180  
ccaacaagta tgtaaacagt atgcatacta tcagagtcca gtctgcactt ccgtaaccac 240  
acagagccca tactggaccc aatgctcgaa gactgtgcaa acctttgtcc caagccagtg 300  
cagtacttat acccaatctc ctacatggac ctattgcagc acctacacca ccactagc 358

<210> 3601  
<211> 319  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-C4

<400> 3601

aggaacgttt tgtgggtggt tggcgtcggg acgacgttgg aaatgtccat tccactcaac 60  
ctttgtacaa ccaaagaaat acctatcttt caataaaca gttttccctc aaaaaaaaaa 120  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa agggaggaag 180  
aacaaaagga ataaaaacta aaaataagcg tgaaagaaaa gaaaaaaaaa gggggggagg 240  
gtcaaaaagga ttcaagtcaa gggacggggg aatagaacgt caaagaccgg gaaaagggtg 300  
acgtaaatca atttaaggg 319

<210> 3602  
<211> 267  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-C7

<400> 3602

agaagctgaa ggatgccttg cggttcttgt ggtcgggttt ctagttgtgc ttgtggagaa 60  
aagtgtccgt ggcgtacgaa gcattgtaat tgtggtgacc aaaattgtcg ctgtggtaca 120  
aatgtagtg gtttgagtgc tgaaacctcc aagtgttggt accgttgtca agggaagact 180  
tgtggttgca cgcgttgccc atgtgaagca gctagtaact agaagaagta ttgccgtttt 240  
taatataaag ataattgagt ttgtaag 267

<210> 3603  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-C8

<400> 3603

agcccaagcg tccgattctg acaggacccc gaatattcctt ccgttaaaag agccaattcg 60  
tggaatctt cagatttcaa ctcatgcggt gtatttcca gatgcaactg aaacattcgt 120  
tctcgtcgt gaacatttgg tagatgaata taaatacgtc tttcaaatct tcttcggata 180  
agcaatattc aaaggaagat gagaaagaaa gtttgatta aatgccggag atattgtttt 240  
aattggcttg agatactatc aagacgaaga aaaccgatat gagactagcg tataatccac 300  
atgaagctag agcattgaag tctcaatgag aaattccaga c 341

<210> 3604  
<211> 231  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-D2

<400> 3604

agtggagagg ctctattgtt tatttcgtct gctcaatgct tgcaaagaaa agaaaccgag 60  
tccacctatg cctgttgact atattcgttt taaggattcc gagaatagag gaccactagg 120  
tcatatacct agaagaattc gcaagtattc cataacaggt tctcctattg gaagtgatag 180  
aaagaaaact tgggaaaatg gcaatggaca ataaaacgtc gttgcgattg t 231

<210> 3605  
<211> 404  
<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-072-Q1-E1-D4

<400> 3605

agcggacgcg tggggtcgga ggaagaggaa gcagattttc gaggggaattg tgactcgggt 60  
gctattccaa agaccaccgt gaacaaagtg gctacagaag tacttgccaa tgccggtgcg 120  
catctttcgt ccgatgccaa agaactattg gttgggtttt gttctgaatt cgtgcaactt 180  
gttagttccc acgccaacga attgtgtgaa aaggaaaaca aaaagggttat ttctcccgaa 240  
cacattttgc agtcgttgga agaactgggg tttggagatt attgccaaga agtgaaacaa 300  
gtgtatgaag aattcttgga aattgaaaag gtaagtangg aatatatcgt ggtggtggtg 360  
gtggtgggtg tttgtggaga gagagagagc tgacggactg tgat 404

<210> 3606

<211> 398

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-D6

<400> 3606

ggggaatcga caagttggaa gaaatgcaag gccttactgc aagaaaaggc atcggagtga 60  
gtgaataagt gagtattgct gatgaaacgc cgttatttta cgcaaaaactt tgattctcgt 120  
ctcatttttt gttcgtctcc taataaagag agttcatcct ctgagagttt ttccaaagtt 180  
gcctctaata ttcttggaac ttgcaacata ttttgtgcat attcggaat agtatggtgc 240  
cttgacgttg cttctcttcg ctttttccaa attggcagcc acgaggatgc cttgtcagac 300  
gtagcgtttg gtcaaactgc tgcagcaatc agttgttcat atgacggtaa agtgaatatt 360  
tgggatagtc gttcacccca tttccgctca gttcaaag 398

<210> 3607

<211> 387

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-E3

<400> 3607

aggaaaagaa gagaaaagcc gtactgaaga ccgacacagg tactcgagga gaaaggagac 60  
 ccaaattaag gtgagagaat ggacgataag gaactaggca aaaggatatg gtatctgcgg 120  
 tagaacatat gaaagaagca gcaccgactg tttagcaaaa acacagcact ctgcagaaaa 180  
 gagaaaatgt aaagtataga gtgtgcggcc tgccaaatag tagagaagaa atcgatgaaa 240  
 gtgaaagcga gtaaaagatg aggtatagag aatggcggtc ctaacagtaa ggatccaaag 300  
 gtagcgaagt aaatagacgt ttgaaaggcg tccagtatga aaggagaaac gagtgtagca 360  
 ctgtctagtc gtccaactca gcgaaac 387

<210> 3608  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-072-Q1-E1-E4

<400> 3608  
 agcacacgcy tccggaaaaa gacggatgac tcgaccacaa gttttgttcc ttccatatca 60  
 aaagaccaaa tcacgacgag tattttctgaa gcgataagat atgaaaagga atatgttggt 120  
 ttacttggc agaatttata caaactgttt ttgatgctt atcctttgtt gcacacctgtg 180  
 cctttgatag atatcattca ttttgcctcat ccaccaata gcacaattct gttatccgat 240  
 gctcaatatt ctgcattccg ggaacaatta aaagcgatgg gagtgtcgaa taatttgagc 300  
 cacatatgag aaaagaagaa agaaaagaat actcgatttg ttgctgttgg tttgttgac 360  
 aactgtaaag tatttcatac gagaagagga gactgtat 398

<210> 3609  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-072-Q1-E1-E8

<400> 3609  
 agcccacgcy tccgcggacg cgtgggtgcy ttctttcgtt ggcccgaaga acattcccat 60  
 tgtcttttag atggcgacaa actgggtgtgg ttcctttcat ccaactacac atcgggtcttg 120  
 agagattggg gtcagtttac ggcagaagaa accacgcagt tgcgtcactt gttgtacttt 180

ttagaagaca ttgtgcactc ctaatttcct cagaaatggg atgccaacaa ccacaatata 240  
ataccacacc tttttttttt attcaaaaga tacaaccatg tcgctcggtg ttgttggttt 300  
catctcctcc tctccttgc tgatataaaa aggcatctac gcagtcgccg tcttcc 356

<210> 3610  
<211> 335  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-F4

<400> 3610

ccagaaacaa aattttttgc gttgtgtaac cgtagcctga ccgttttttg ttcttttgta 60  
aagtttttgt tcttgaatgt gcttctgtaa atgtcttcag gtgcagttat tggcgggttc 120  
gcagcagctt ttggaactgc ttcggcttta ggagttgtag gaattatcgt tcatgtgtgt 180  
cagtatcaac ccaacgctag aatgcgaata ttggaacgta gaagaagctt tattgagaga 240  
gctagacaaa gacaaagtac gtttccacca ggtcaagaga gcaaagctgt tgatttggaa 300  
gagattgaat gttgctgtcc acagttgaag tattt 335

<210> 3611  
<211> 218  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-G8

<400> 3611

ggctcgaccc acacgtacgg atgaacaagt aagtgttgaa tatttcactt tgaatatatt 60  
atatatacgc gtgtatatgg actgaatggg cgatatagac tcaattatat acaaggaatc 120  
aaagttatta tagcttatat gaatgaactt gtcaattgct agactctttt cccgctatat 180  
tccactctaa taatataaaa ggataaagtt gttcttgg 218

<210> 3612  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-H2

<400> 3612

ccatcgtata ctcgactcga tcgttgcaac gcatattgca aagcgacatg gacaacagta 60  
gcagttactc ccgaaccaca catacaaac acattttctct tatctaccac cccatgacgt 120  
tgaaatattt gtttcaactc ttctttatcc agtatatctt ggccatcttg agttagcaac 180  
tctacaaacg ggatattgat agctgtgtcc acgtgaccac taggaactcc tgctcgtggc 240  
tctggttctg ttccatgaaa acgaccagaa gaacgagcat ccaatattac acaatctctt 300  
ggagactgga catactcttt tactagcaac tgatcggcaa caaactgtgg ttgatatcgt 360  
ggcacaaagt cttgttggtc tcggatggca tccaactatt atcatc 406

<210> 3613

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-H5

<400> 3613

aggaagagtc ggaaatatct ggcttgaatg agtcaaaagc attgtctcca gaagcctttt 60  
caagaagatt gaaaagtata ctggatgaat atcattcttt gaaggattca aaggaagcag 120  
tggaagagtc aaaggaaata cctcaagcca acttggaat gtttgtttat cagttttattc 180  
aggttgcatt ggaaagtaga acagccgtga gaaacgatgc tgtctctttg ttcacgcttg 240  
caaaagatat tatcacccca gagattgtga aaagcggatt tgtatcagtc atagaaatgt 300  
tggtgatctc cgatatagac gatcctcatg caagcgattt tggtgcttcc cttgtgggtc 360  
gtgcagctgc tttgggcatg cttactgatc ccagtcaaga t 401

<210> 3614

<211> 373

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-072-Q1-E1-H8

<400> 3614

agcggacgcg tgggcaactt ttttaattgt tggaatgcag aggagaactg gtcttaaaga 60  
acgttgagga tttgaaaaat cttagcatcg aaatcaacgt tagtttccgt gatgatcaac 120

ctctgttgcc ccttagtggc ttgaggaatt cgggaggtga aaagatgggtg tcaattatgc 180  
 tttattttatt ctcgatgcag cagtcgatga aggctccttt cacccttggt gatgaaatga 240  
 accaggggaat ggaccctact tttgagagga agattgtttc cgtcatgatt agtgatgcac 300  
 gacattccac aagtttctcaa gtgtttctca tttccccgaa attgctcact gatctagagt 360  
 ttggaagaga aac 373

<210> 3615  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-A1

<400> 3615

ctggcgtagc gtcggtattc cgggtcgacc acgcgtccgg gacaatttta gccttctttt 60  
 ggcaccgttt tttgtgggtt tctactcgtgt gttttgtctt tttaaaactc gaagactatt 120  
 tatttcttgt tatgttttag aggtgtttct acagtgtgtt tttggaattg tcgtacacca 180  
 tgcttggtgg ttggtgaatg gctccagtga caaaaaaggt tgctactttc ccaccattcg 240  
 ctacagctcc aaccaccaat ctgtatacac atacatatgc ataaccacat atgtactaca 300  
 cagccgtggt gtaaaaaacg ataattcgaa tggttgacaa ggcttgattg aggtcaaaag 360  
 actagtgaac gtgtagaga aggtcacttg gaaagggggc cacttccttg tgtaaatgtg 420  
 ccactagtaa ctaactaatt cctcttgaag agatttcacg tttg 464

<210> 3616  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-A2

<400> 3616

ggtcgacgca cgcgtccgcc cagcagtcgg ataggatcta cggtatatcg tttttatgaa 60  
 gcagtgacgc actatggaga agcactcaag gcactagtga atgaaaaagt gtggagatgg 120  
 aatcatgtct gctatcgata tgtatgtatc tgtagataaa ataaaaggaa ggcatggaga 180  
 agaccgaatt gtggtaaaat tgaatggcaa gtttttacct caagtagaag gcaaagcaga 240

agatgacacc tcttctttgt cctcttgaag atattcgtca tggaagaaga tatcggagga 300  
 tggcgagttg gctattctct aatgtggagg gattatgtgt gtagagagag aaaagagagt 360  
 ggtggagaat gactcctttt tttgtgagtg ttgtcatgtg aaaaatacat tgttatgatt 420  
 ggcaaa 426

<210> 3617  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-A4  
 <400> 3617

gggtcgacgc acgcgtccgt gatgaataag tacattgaga agtatcgttt gtattatagt 60  
 ctggtacgag tgttgttttc gttggcaaaa ttttgagcta aatagttcat ttgaggtatg 120  
 tcgcctgagt gagttaagca ggtcgttcga agacttgaaa catcgatttt tgaattcctc 180  
 ttctacagaa gaaagacaga aactgcggga acgaatcaaa atacttaaag acaaacatag 240  
 ctccaagtgg aatgtaggca ctagtctcgt acaacactta gaaaggcagt tgatatatta 300  
 caaaaataaa ttgaggaact tgtaaaaaaa aaaaaaaaaa aaaaaaaaag aaaaaaaga 360  
 agaaaaagag aaaggaggag gagggagaaa 390

<210> 3618  
 <211> 146  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-B1  
 <400> 3618

ggtcgaccga cgcgccggc agggtagagt agcgaaacaa gagaaggga gtaaaaggta 60  
 agaaagagga aaggtttacg agagaaggaa gtagaaagaa gagagtgtaa ggcggcgtca 120  
 taatagaaat ccgaaaggag tagaag 146

<210> 3619  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-001-Q1-E1-B2

<400> 3619

ccacgcgtcc gaattttgtc gtttgtgttg caaagccaac aagcattgag cacaacaata 60  
tcgatatgtc aagtggctgg aataactaatg tggaacggaa ggtaatggga atgctggtgc 120  
tggacaaggg aagaacaagg ataagaagac cagtggagaa cttgcaaaag atagttaa 180  
gggtttggga atggcagcct tgtcagcggg taagctggtt tatcgcggtg gcaagtgggtg 240  
tgtggataag gtggaaggcg ccattgacga ccacaagtca aaaggaagta agagtggcgg 300  
tggtggaat tcacgttatt ctctgtgaaa cgtaataact tggatagaaa cagaacgaga 360  
cggtttttta tatttgttgt gctggataaa taattttctg t 401

<210> 3620

<211> 448

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-C3

<400> 3620

ggtcgacgca cgcgtccgcc cacgcatccg ctttgggtat ttcagactta tcaagttgga 60  
attttccaaa cactgaactt ttataggtat tgtgacagaa agagattatc ttagaaagat 120  
agtacttttg ggacgctcat ccaagacaac ttatgtaaag gatatcatga cgtctgcca 180  
tgatctaatt agtgtcaacc cttcagcttc tcttagcgaa tgtatggaaa taatgactca 240  
gaaaagaatt cgtcacattc cggtaataga tagtgaaggc aatgtgaagg gaatggtatc 300  
cataggagat atcgtagag aactagtcga agaacaacga catgaagcga agaaactgaa 360  
tgaatacatt caggggactt attaagatgg gctccttcga ggcttgaagt gcttttgttg 420  
atttgtgcac agaataaaca tttgtgtg 448

<210> 3621

<211> 401

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-C4

<400> 3621

gggtcgacgc acgcgtccgc ccacgcgtcc gccacgcgt ccgaccagac gagaaagtta 60  
 cctttttggt cctgttcac acgttcgatca aggagactgg tgtcttttaa tagcaagtgt 120  
 gttttctgta gttgtgacaa cagttattgg aaggggcaag ttggagcttt gtgacagggtg 180  
 tgctggactg ggtggagctc agtgttttgt ttgcaagggt accggagtta tctatttgga 240  
 agaggggtaca aaaaagtgt aagcttggtt cggacgagga aaaatattgt gtagacgatg 300  
 taaaggaact ggatattcta aaatgtggtt ttaacagact tgctactgtg agggcccccg 360  
 aaacaaataa aacaacgcta acccgataag ggtcatccca g 401

<210> 3622  
 <211> 323  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-D2  
 <400> 3622

gtcggaatta acgggtcgac gcacgcgtcc gccacgcag tcggcaaaca actggaagca 60  
 gggttatatt ccataatgtc ctctgagttg gatgaagatg accatcccga gcgacaaata 120  
 atcggatcta ttagcttagc agatgcagat gaatgacagg gtaagagaca taatgctcga 180  
 ttctcctttg caaattcctt tatacagggtc agaagcttat cgatatttct atacatctcg 240  
 tcttgtcgag aaccaggaag aagaacctaa agaaaagata aagctaagaa cggcgatgtc 300  
 ttcttagaac aagagtattt tgg 323

<210> 3623  
 <211> 467  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-D3  
 <400> 3623

gcggccggtc cggaattatc gggtcgacgc acgcgtccgc ggttgattaa gaaaactggt 60  
 ggaactgttc aacttgcttc gttactaaat tcgttctttg ctgagggttt tgaagtctcg 120  
 cctgtgtacg atgccaggga gaagatagtg aactttgagg tgacagactc tcatggcata 180  
 tcttttcgag accgaatatc tattttgtat gtgactccat tgacaagaga ggacgcgaaa 240

gcagacagcg ctccagatgt tgtagagttt ctacttttg acaactttcc tggttacatg 300  
cagtcttata tagatgtagg gcgaaacgta cgaagcaggc gcagctcacc aagtcgaagt 360  
cctgtcaaac ggataaaatc tgaaggaagt tgagagttga atgtcgatgt atagacggcc 420  
actagcggcc acgacggtcc gcagtctcgt taagaaataa ctacta 467

<210> 3624  
<211> 363  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-001-Q1-E1-D9  
<400> 3624

ggaacacgga ggacgacagt agcgatggga ttgttttagta gactgtttgt gaaaccgagt 60  
cgtgtaccgc aaagagtcgt agagtttcaa aagcgcaagg cggaaggcta ctttacatac 120  
aacgccggga agtacgaccg atacatcaac acacctatgt acctgtttgt gtccttcacc 180  
ggctctttatg cctttattga cgggtgtctt tgggcggcag gaaagaagga aagtcaatcg 240  
tgaatagcgt tttttgtcct tgtggacagt cttatgaact agtgattcgt ttgttctgcc 300  
agtttttagtt tcttgtaatg aaagtttcct ttttttcctt gcaaaaaaaaa aaaaaaaaaat 360  
gaa 363

<210> 3625  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-001-Q1-E1-E2  
<400> 3625

gggtcgacca cgcgtccggc attacatcct ggtatgactg tgctggactt ggaggaagca 60  
aagctttggt aggcctcctca attttggtcg gcaaatgacc ctgtcaatct tgctggatg 120  
gtcgctgcaa atattttacg tgggtgatgt caacagacgc attggcttga gcatgaagag 180  
tggttaaacy tgacagtgc aaacatagtt aaagatgagg aatgtatgtt aatcgatgtt 240  
aagaatcctg aggaagtaca gtccgaacct gtaccgaatg cacagaatat tccacttcgt 300  
gatattcgaa gtcagcttga taagttaccg aaagaaaacg aaattgctgt gttttgccgc 360

tcggggcatc gttcttattt ggcatccaga atgttaagtc agctggggtt tcatgtgaaa 420  
aatattt 427

<210> 3626  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-001-Q1-E1-E4  
  
<400> 3626

gggtcgacgc acgcgtccgc atgaatggaa tggcgagcag tcctgctttt caaaccaatg 60  
tcctcttcac acagcggttg aacagtgtca gaactttaac agtaaacaga aagtcttcac 120  
catctttccg ttttacttgt acctcccgac agactcctgc tactggaact atcaaggact 180  
ttgtgaccaa aagagctatt tatacccttt gctattactt tagtgagcta cacgacgaat 240  
tttctaagag atggctcctt caattcgaaa attttgggtga ccaagggtgaa cttagagaag 300  
gttcttatgc ttatttggtg cgactgttta ggtcgcctat gcatatTTTTT gaaatttcaa 360  
gtggacctga ccctcgctat cactcctata gtcgcacttt tgaaatacaa ataagttcat 420  
cctctattgc aattcggtta atgagagta 449

<210> 3627  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-001-Q1-E1-F1  
  
<400> 3627

ggtcgcgaat tcacgggtcg acgcacgcgt ccgagaatat gaacctcttt accgagactt 60  
tggtttgggt acaactattt ggtcaccttt ggcttgggggt atcttatctg gaaagtacag 120  
tggaagaat attccagaag gttcccgact gtcactcgag aaatacaaag gattgaagga 180  
agtagctttt acggaacgag agtggcagat tgagaagacc gatcagttga agccacttgc 240  
tcaagaactt gggtgtactg tagctcagtt agcgattgct tgggtgtcag cgaatcccca 300  
tgtatctacc ttgattactg gagccacaaa gttgcagcaa ctagaagaga atttcaaggc 360  
aatggatatt gttcccaagt tgacaccgga agtaatgaaa cgaatcgacg acattgcaca 420

gaccaaacca gactacaat

439

<210> 3628  
<211> 444  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-001-Q1-E1-F10  
  
<400> 3628

ggtacctagt ctagaattcc gggccgaccc acgcgtccaa aaaaaaaaaa caagaaaaaa 60  
aaaaaaaaaa acacttttag agataatgta atgaaattag tatgtccatg gcgtttggct 120  
ccaataacctg taatagggtat tcaatgtctt ttctagccca tatggatatg ttctcgtctt 180  
cgtactttgc gatacgagcc gaacgatcta ctactaacta gtgtcttggt attcgttctt 240  
ttgattctga atgtcgttgt ccttataata atgtgaagta atgcgatgca taacgcagat 300  
gcaaccattt ctttgggaagc gaatggattg aaacctcctt tactggtaat gacttacacc 360  
atacaaattg gatttgatcg acgaggggaa atgaactgcy aagaattgct gcatatcatc 420  
aaggccaag atccggagat ttta 444

<210> 3629  
<211> 445  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-001-Q1-E1-F3  
  
<400> 3629

cggccggtcc ggaattcacg ggtcgacgca cgcgtccgca acatacttca ccagataatc 60  
cagtgggtttt ctttgatgtc agtatagctg accatccggt gggaagaata aagatggaac 120  
tttttgccga tattgttcca aagactgcag agaacttttag gcagttttgt actggtgaat 180  
atagaaagga tggatttccc gttgggttaca aaggctgtag ttttcataga gtaataaagg 240  
actacatcat tcaaggaggg gactttgtga atggagacgg cacagggtcc ttgagtattt 300  
atgggctata ttttccagac gagaatttca tcttgagtca ttccgggtcca ggagtattat 360  
ctatggccaa tacaggacct aataccaacg gcaatcaatt ctttattact tgtacgtcgt 420  
gtgagtgggt ggacgttaca catgt 445

<210> 3630  
 <211> 442  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-G10

<400> 3630

```

ggtagcggtc aggaattccc gggccgaccc acgcgtccac ccacgcgtcc gccacgcgt 60
ccgcttggca acgcaaagaa tttaaaagta tgacaaagcg acagcttcat aaaaatacgc 120
ttgaacatct taaacaacat cgaacctatgt tccctgccat cgaagcaagg ttcttgattg 180
taaagacacg agtaaaactca gaatcgagtg ttttttggac aacaaaaagt tctactgagc 240
catcaaagca ttcaaaacca aaagttttgg ataactttcc tgtagagacc ctatgaattc 300
ctggcaggtg ctgttcaaaa atgtaataga acagtttggc attgaaacct tatcatcttt 360
tagacataag catagaaagg ttgcgagtga gtgcacatac taaattcaca ggaaattttg 420
gacgtctcaa gttcaaactg tc 442
  
```

<210> 3631  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-G4

<400> 3631

```

ggtagcagca cgcgtccgaa ttttggcgcc ttttgccgac atgtcgaaga agaaaggcct 60
ctcctttgac gataaaagaa ctagaatgtt ggaaatattc acagagtcaa aaaccttttt 120
cactctcaag gaattggaga aagtagctcc aaagcaaaag ggcatagtgt taccctccgt 180
gaaggaagtt ctccaaagtc ttgtcgatga cgacgttgta tccagtgaca aatgtggaac 240
gcaaacagtt tactggtgcc ttccaagcca ggctgtacaa aagaaacgta gcagaattgc 300
ttccttaact gaaaaattac aatcaaaatc cgaccagaag caacagttat tagaaaaacg 360
cgaagaactt cgcaactgtc accaagatac tgaggagagg acacaattaa ttgagcagat 420
aaacgcactt gaatctcaaa t 441
  
```

<210> 3632  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-H12

<400> 3632

```

cccgggtcga cccacgacag tcaggatgct cgaacagcta gatatgcgac gtgatgttca   60
agagattttt cgtatgactc cgcataataa gcaggatcatg atgtttctcg caactctatc  120
gaaggaaatt cgaagtgtct gtaaaaagtt tctatccaat cctatggaag tttatgtgga  180
tgatgaagct aagctcactc ttcacggttt gttgcaatat tacttgaaat tggaagagca  240
tgagaagaat agaaaattga tggatctgct agacacacta gagtttaacc aagttgtgat  300
ttttgtcaag tctgtgcaac gagccaatgc gttgaataag cttttggtgg aatataactt  360
tccgtccatt gcaattcata gtagcatgcc acagtcggaa cgtatctcaa gatatcaaat  420
gtttaaagat tt                                                         432

```

<210> 3633  
 <211> 466  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-001-Q1-E1-H4

<400> 3633

```

taccggaccg gacttctcgg gtcgaccac gcgttcaaga tatcgaaatc tcggattctc   60
acttctcgat tgttcctcat tggcttttac agcgcagttg cctgtatctt aacaggatgc  120
attggcgaat catcaaatag tttgcgaaaa aatgttcgtg tcttactccg tacctgcaag  180
aaacttaccg gctttggcac gtaacttttc caatgtctgt ctctcgagga gtggtctgag  240
aggggggatgt ttacgaaatg tgaaagtttt caaccacaaa cgacctgcaa gggtgttatc  300
tacgaaaatg agaggaggcg accatgaaac gagagaactt agtcgtccta tgcgtacact  360
tgattccgct ttcgacgaac ttttagcttt tgcgcacgat ccctggtcca tgtttcgctc  420
tccatggagt ctgtcgccca taagtatggc agtagacacg tggatg                                                         466

```

<210> 3634  
 <211> 461

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-H7  
 <400> 3634

taccggaccg gtagttccgg gtcgccccac gcgtccgcga gactggtaag catgacgtct 60  
 atttgggagg catccaaaga acgcgtttat cattacaaaa acacagttcc ttaccactta 120  
 aaggttatcg acgcttttct cttgtatgtc ttttctactg ctgccatcca gtttgtttac 180  
 gtcttggtcg ttgggacctt tcctttcaac gctttcttgg cggggtttctt ctcgtgtgct 240  
 ggagtttttg tgttgacagg taaataatac agggatacta tatagctgcg gttttttccc 300  
 tcacgttatt tatctagtgg ccttgccgat gcaagtgaat ccgcggaatc agaactcagc 360  
 caatcgatgg gaaaaagtga acccctaccg tgcttatgta gaatggctgt tttgtaactt 420  
 gattttgcat attgctgtta tcaactttaa tggatgagag a 461

<210> 3635  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-001-Q1-E1-H9  
 <400> 3635

caggtaccga gtctagaatt cccggggcga cccacgcgtc cacaatacgc tataccaagc 60  
 ggaagatctt cctttcgaga ttgagaaaat gccagatata tacaccaaata ttcgagaaag 120  
 tgtggaagct ggtgggaaga taagagaacc gttggaactt agtgaaggat ttccaccag 180  
 accacgttgt gaacctggtg aaattccaac gcttactgac cttggactag atgcatcccc 240  
 cgagcgagta cctggtgagt cgaatcctcg tagcatacat ggatttagac gaggagaatc 300  
 ggagtcgctg aaaagaatgg aagattatct ttctgaaatg agaagtaccg aaatcaattc 360  
 taccaacgca ggagcgtatt tgggtgctga tttctcttgc aagatttcgc cttggcttgc 420  
 gttgggatgt attagtccta ggaagatata tcacg 455

<210> 3636  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-002-Q1-E1-A4

<400> 3636

cgtaccgggc tagaattccc gggcccaacc aagcctccag gttcccgaag gaaatttttt 60  
caacatcggg aatttcgaaa aagttgggtt tccattaagg aaacttttgg aaggccttga 120  
gaagtccttg gtacagattt cagcaaagtc cttatcggtg acaatttctc ccaaacgtat 180  
ggtttgcaag tggagaatgg tattcctatt accacatgga ttgacgatag acaagataga 240  
gaactgttaa atctaatacc ttttttgaag cagctttctg tctgtgacga tgttcggcca 300  
attttgagta cgcgacttca tcttgctgat ctcgttgcac gttatcgcaa attgatgtat 360  
ttgaactcgt tcgatacatt ccacatggac gatgagaaaag atatgtgtgt ggeggtgacc 420  
tgatactttt tcggt 435

<210> 3637

<211> 213

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-B1

<400> 3637

aggaggcaaa tacgggaaag cagtaaaaga agaaagagaa aggaaaaaac tgagtatcag 60  
gaagaaaaga gggagtagat gaggaagaa agatcaagga agtaagagta agagaaggag 120  
taatgtgaat gaaagcagga aagtatttga agaagagagt gtaaagcgcg taccttttgc 180  
ataatgtccc agcgagtgaag agaggaagca aaa 213

<210> 3638

<211> 418

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-002-Q1-E1-B10

<400> 3638

gacccacgcg tccaccacg cgtccgcgta aatattgtgg cggggggccc ttgggaaccc 60  
ttaaataat tacacaaact ggccggtaac cctaaactgg aaacacaatg gaccttgga 120

taaaaccacc aaaggcttcc ccggaaggca cggccaaaag tagcaccacc gaagtaacta 180  
 taaaagctgc ggaaattgta aacttgggtg acatttggcc tgggcgtccc caaattggac 240  
 ttgaaacaaa tcgccattaa agcaagaaat gcggaatata acccaaagcg ttttcaagct 300  
 gtcacatgc gagtaagaaa gccacaaca accgccctca tatttagttc gggcaacatt 360  
 gtggttacgg nggcgaaaag cgaagaagaa tccaagcggg ccgccccaaa gtttgtgt 418

<210> 3639  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-B1  
 <400> 3639

ccggtctaga attaccgggt ccgacgcagc gtcagaaacg aagtcttctt cctcctctc 60  
 cggtctcttct tcttctgggt cttaaaaggc ttcaagtgtc tgtctctcaa agaaaagata 120  
 tgcttctctt atactagtta ctggaaattt gcttgacac cctcatgtga taacgactcc 180  
 tcgaagacc tctcgttgtc tcttagggca acgaaagcga caattgtctt tcacacatac 240  
 tatatctctt cgttggacga tgaacatctt tcaacgtttc tttcgcatca tccgtgccaa 300  
 tgtgaaccaa ttattatctg gtatggaagg accaagaaag ctgatcaaca aacagttgac 360  
 gatatgaaaa gtgacttggg gaaagtccgt caagcttatg cagaagtagc agcaagtcag 420  
 aaacggctan aaaaacagcg tcaacaagca 450

<210> 3640  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-B2  
 <400> 3640

taccggtcta tagttcncgg gtgcacccac gcgtcagggt gtgtattgca ttttgcgttg 60  
 gattgccaaa gccatggaag aacatgaata gcgcatttta gaaaaggact gttttatgga 120  
 aacttctca ggcttgttgt acggtttggc agctggcgta acttatgggt tcatatacaa 180

ctttgataacc ggttttgaga acgatcctcg agcaataagc tttgagccgt tacagccatt 240  
 tgggtgcacag gtttaacagg ccacctctca agtttcatgg tgctgccaat cgctttcaat 300  
 attctccaca acgctgcctc caccggagcg ctggttcttg caggtacctt tgctgtagca 360  
 catgctccat agcaagatac ttttgtaa at gatttggatc cctgtggatt agaacgtat 419

<210> 3641  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-B7  
 <400> 3641

taccgtatta ggaattcccg gctcgacca cgcgtagga caagagcaac aacaacacag 60  
 tggagggaca aatattcgta gaatggaaca aatattgttg gagagtcaaa acaaagcgct 120  
 tggacaggtg aaaaagggag ccttgtctat aaggctggtg aaccacgttt ccttttctgt 180  
 acccgaacca gtgaagacgg gcaagttctt ttgagagatt cttggctttc gagtggttcg 240  
 acgacccaac ttcaattttg acggtatatg gttgtacagt tatggtattc aaatacacct 300  
 tatctaaggt gctgctctcg aaagaccaa tatcttgaaa ccatgcacag accatatatc 360  
 tttcgaagcg gatgacctca caagtataca gaatatattg gacacttta atattccgta 420  
 tcttttggag t 431

<210> 3642  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-C2  
 <400> 3642

accggtcagt aattcncggg tccacccacg cgtcagaatt catttggcag acgctgttcc 60  
 ttgggatgat gactttactt gtttttggca aggctctatt caatttgcga gatatttcag 120  
 gcttcttttt ggctccacac ttgttgtacg gtattgtagg aaatagtgcg agtcctggtt 180  
 tagcggaatt gaggaacat cttctatgag gtattggctc attacgtgga tattctacgg 240  
 atgcgctaag tactgctata tggtccttac aatagctgt ggaactgcgt tttcaaccat 300

gtcgacgatg ttctcggcac ttgaatttat gattgtttgg gt

342

<210> 3643

<211> 217

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-C7

<400> 3643

gacccacgcg taagcgaacc tgtaggacgc tgctggtgta gggtggttga ttctgtaacc 60

actgctagca ggcggaatag tatagtagat gtttctcaac atagacctgg ctttacacgg 120

aaaccttacc acctatggat tcggattaag agtttcccaa ctggtttcga gtacatgtat 180

aacgtctcag tgagctcgaa tacacaatga gggtcgt 217

<210> 3644

<211> 339

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-002-Q1-E1-C8

<400> 3644

agggtctgtg agagcgaaaa agtctttgca gtggaggtcc ttttgtgacc aaacttccaa 60

aggatccgag tttccttttg ataagccgct tttaaagtgg aagccgttgg aaaaggcgga 120

agaagaaatc cttttcaacg ataggttgcg tcttgtaaca gactgcattg ctttgggtgc 180

aactggtttc gtgatctata aaatgactta ccgttttctc tatggtcctc ctgagcgatg 240

aaactgtagg ttttaatatata tgcgtttaga aaactttgtg tggaataaag attggctcta 300

gttgctgact tgagggtttt ctgcacgaca gaaaanann 339

<210> 3645

<211> 391

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-D6

<400> 3645

taccggtcta gaattcccgg gccgaccac gcgtcaggct gcagtcaagt ggatggggtt 60  
tcagttcaac ttgatcaacg aaccatccaa tgtcttataa gttgttaaac atttacagcc 120  
acgtcagctt gttcctttga tgaataatga cttgaatatc agtgaatac tttcttatgt 180  
catcgcctcc aaaggtagtt tagaagagtt tgaacgttcg attcgtgctt ctgggttgag 240  
aacccaagta ctcaagccag tgataggaga accctgtcga ttactgaaag aagaaagttc 300  
atatcgagtt gttggagcaa ctgtctgtcc atctcctcag gaacaaactt aaaggctgaa 360  
aataaaaccc acggtctctg ctatggaaaa c 391

<210> 3646

<211> 399

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-E1

<400> 3646

taccggtcta gtaattcccg ggtccacca cgcgtccgca gggacaagtg gctgggtcca 60  
aaatatttgt acgcgatctt ctggtgccac ctggtgtaca gattgtggaa tcccaagaaa 120  
tggaatgtt ctatttgaaa ccggaagag aagacaagga agctatggaa gagggatctt 180  
aaagtgcatt ccaatagaga ttgactcgat gaaccaatcg aagtccatt tcataactcg 240  
ataaggagat gattccacta ggaactgttc gaaggagact cgtacccatt ccctatatat 300  
atatatattt accacacaca tatatataaa taaccataga ggatagatag gatattcgat 360  
gtgattacct tgtaaaatgc caacgctcct tcctgtcgc 399

<210> 3647

<211> 305

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-002-Q1-E1-E4

<400> 3647

gtaccggtct agagattccc gggccacccc acgcgtccgc aagctgcgat tgcagtggca 60  
aagaaaggag ctaaggccaa cacgaaaaag ctcaagaacg aaaatttaaa gaataataac 120  
gaacgttggt ggtcaaaaaa tcctggaaaa cgaccgggtt gggaaaaacta tcaaaaaaag 180

gtctgcaaac acgcccacaaa cgtatcaaaa gagggcaaca tctgtttttg aaatgttcaa 240  
 gaaaaagtag tagtagttcc tactcacgtg ttcttaaaat atacttaata aattcaacag 300  
 ttgcc 305

<210> 3648  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-E6  
 <400> 3648

ggtaccgtta tggaattcgc gactcgaccc acgcatcagc aggatgagtg tcaggtatct 60  
 ccaaatttgt gcaacggctt caagaagtct tttgtcaaag gaatctaaag ggttttgccg 120  
 atatttgcac gctacgaaag tctctcaggc gtctaattgt atgtgccgag atgcccttaa 180  
 cagtgcgctt gatgaagaac ttgaacgaga cgaaagagtt tgtattattg gagaagaagt 240  
 aggacagtac caacgcgcct acatagttac tcgtggcttg tatgaaaaat atggttcaag 300  
 gagaatagtt gatactccta tatccgagat gggtttcacc ggtttggttg taggagctgc 360  
 attcaacgga ctaagacctg tttgtgagtc tatgacctta aactttgcaa tgcaggcgat 420  
 cgaccagatc at 432

<210> 3649  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-002-Q1-E1-E9  
 <400> 3649

agtacggtct agaattaacg ggtcgacgca cgcgtccacc caagcgtccg gcagtanact 60  
 agcagtacgg gacggaaaga ccccataatt cttgactaga taggtttaag gaggagagag 120  
 aatcatgaag tacaggacgt ggggtaagag atgaaagacc actgcatgag gataaggaat 180  
 ctaactgagt aaggaaaata agcttaagct agtttggttg gggaagtaaa gcctaagaaa 240  
 gagtaaatta ggcaagcaaa ggcatgagag aagtataata gcacaagcat gcttgaagaa 300  
 aaagaaagag atttcagaaa gggaagaaaa gtcagctata gagaacaggt gaatgagaac 360

tcaaaaagag gagagcaccg aacgatcgaa gaagaaactt tgggggtaac aggttaatgt 420  
 ggtgtagag aacgtatcaa gcaccacgat tgac 454

<210> 3650  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-G12  
 <400> 3650

ggtcgagcca cgcgtcaata gatatttgca gttttacaac agggtagcac gtgatattct 60  
 ttgtgatact ttatcggagt tgtactttac gtcaaactgt ctaactgaac tgtcccacaa 120  
 gttgaagaaa gctataagga aggggtgctgg tggagatgaa tattttgaag agttgttttt 180  
 gggtttgtgt tttaattctc gtccagacat ccagacttat tcacgagtga gcagtcggac 240  
 tatctatttt cagtccaatg ttttatatcg ttttgatggg aagtgttttg atagacgtct 300  
 gtctagcata aagatgagct gctggataaa attcatcaga aattatcttg gcttcgatta 360  
 tgcttacgta gatatgactg acggtagatg gatgttgtgt cctatgcagg tttctgtttc 420

<210> 3651  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-G3  
 <400> 3651

acgtaccggt ctaggaattc cggctcgacc acgcgtcagg ctctcagatg cagacaagat 60  
 aagcacaag ttgttttatt tattatttgg gcgatgatga gttcgcgcgg tctcgttcga 120  
 ctgatagctg ctgcttgatga agaagctatg cgaacatgca ccaccaactg agccaaacta 180  
 tcaacgtgtc atttattttc ttttaagata cattttgcga atagaaataa ttatttttga 240  
 ggaatagcgt gtataattga atacttggtta gattgccagt agaataaata cttgacgaat 300  
 tggttgtggt taaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagatca cacaaa 356

<210> 3652  
 <211> 450

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-G9  
 <400> 3652  
 tgccagtgc ggtctagaat taccgggtcg acccacgcat ccaagagagc ccatctatcc 60  
 gttttttgag tcttttagaa ctgttattga gaaacttgga gcaggtccca ttgagcgaaa 120  
 gtagcttctc agtgcattcg agacagaaac tgaatattga ctactcaagg aaaggagttg 180  
 tcggaaattc ccagagtgat tatcctcaag attcatgcag aggcgttcaa tttagccaaa 240  
 ctttctgttc attctgtgag tcgctgtacc aagagaatag agttcttaaa gagagaatcg 300  
 ctgagctcta agaagaaaat tcttctcttg cggatcgaat attttgaaca ttgttttacc 360  
 aagaagtttt cttatcactt gcagcggtt gcattcgatc ttttgttgca tgtgtgacgt 420  
 tgttgtttta gaactagttc cactgtactt 450

<210> 3653  
 <211> 341  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-H2  
 <400> 3653  
 cccacgcgtc agaatttctt ttcgtataag tagctgtggt cacagtggac gacgtcgttt 60  
 gtgttttgc tgtcattgtt gtccagtgggt tccatggcgt ttcacttggt acgagtgaag 120  
 cgtaaaggct gtttcttgaa ctgcacttga agccaaggcg agtttaattg acgggagttg 180  
 gaaaccacgt tgttgcaaaa ttcttttcag gtgggtattt agcatagttt gactaagggtg 240  
 tgaaggcagt tgtttaccga ggatcttttg tgcgctatga tgtacaaaca attgcaacgg 300  
 ttgcttttga aagaaataaa cattatcggt ttggaagcac g 341

<210> 3654  
 <211> 259  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-002-Q1-E1-H6  
 <400> 3654



attatatatg tttttttttt tatttgattc cgaattttta caatcaaggg aacccaaaaga 60  
acgtagcaaa ccaaagaatc tttcgtcaaa agaatgtttg gagtttccgg ttggaaaact 120  
gagtcgtttt cccaaaaacg gaaactatgc cgaacgaata tgaactggat ccccagttta 180  
tttggaagca attttggaac accgaaacgc tgaagtcctt gaattggctg gaaacgcagc 240  
tcgtgaaaac agatataca 259

<210> 3655  
<211> 425  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-A12  
<400> 3655

ggggccaccc acgcgtccga tatcaagaaa cctcgttgga taaagttgcc aagaaataag 60  
aatggtatcc actgttttcc tatccaaagt acccgttcat ctcttcacag acctcttctc 120  
atagaggttt cctgcaagct acattcgggt gtgggtacaa cagtggcttt tctactttgt 180  
atatcttgtg cttggtcttt taccagcgat caatctctgg tatttgaagc ttggagatat 240  
gtcgataaat attacgtcga tcaaagtatt catccttcgt ggttgcaact acgacaaaag 300  
attattcgtc aagtcaacca ccaaataagc cacgctttga taagagagat gctatccaaa 360  
ttggatgata cttataccag actattggaa ccagaagaat atcaatcgtt gaaagcaacg 420  
gtaac 425

<210> 3656  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-A4  
<400> 3656

ttcacgggtc caccacgcg tccggacttg aacttttcgt gtatggatga cgaatcgcag 60  
tatccttgga tggaactagt gcaaactaac ttattacaca acagtgaagc agaagtatta 120  
caaagttgcg aacagaactt gctggaagaa cgtgaatggg ttctggacaa gaattgtcgt 180  
tctgttgtgg gagctatctt atctgttctt tctgtatcaa aaaattccag tgaacaacag 240

cgtgctgcc aatctgttttt gtcgttggtg acttgtaaga ctgaagtacg tttgagagaa 300  
tcaatcgctg ctgtcgccaa tcaggatcct aaacgcaagc tgtttcaacc ttttaattgca 360  
ttccttgact aggacaaacg ttcttttagct tccacttggtg ctcacatctt gt 412

<210> 3657  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-A5  
<400> 3657

ccgggtccac ccacgcgtcc ggattttggc aatgaaatgc aaccaacaaa agacacaacg 60  
cctgtcgttt tatttcgtta cgatgcacct ttggaataca acttgatcca gttattcaaa 120  
gacctttatg attttcaaga gccttgtaga gataatatac cttggatgta ttttgtgcaa 180  
cgactggaac gactggcaga agactgtcgt tctccaatag aaagtgaata tttagagtct 240  
ctcatgaccg ttttcagact acatcacttt gtcaattatc aacacatttc tttggctggt 300  
ttggaattat ctcgttggtt ttcttccaca cataatagaa aggaaatgag tgaccgcagc 360  
aatgcgagca atgagaaccg cttttgtggt attttagtaa aatatttatg tcaagtaacg 420  
agcgctttgt ttt 433

<210> 3658  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-A6  
<400> 3658

cccgggtcca ccacgcgtc cgaaaacgcg tccgcccacg cgtccgggag catcggattg 60  
aatttatggg atatcgaatt ctatatgcta cctacgtaaa ctccaaggat cttttgactt 120  
ccattctctc cgagttgaac cgaacagaaa gaaacttggtg ggaagtcgat catgctaccc 180  
aagtttgga tgcagttgca gtgaacaact ggacgcgggtt cttcgtgctg tatgcacaat 240  
gtcctcacct cggtttctat ttaatggata agataaagga tagaatacga cagattgctg 300  
tcaaccattt gcgaaaagcg tttaaagttg acaatatcga cctcgaattt ctctgcagaa 360

attttggatt cgagaataact gcagaatgta aagaatTTTT cg

402

<210> 3659

<211> 465

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-A7

<400> 3659

attcccgggt ccacccacgc gtccgcatat cacgaacaga tgtctgtcgg tgagattact 60  
agttctgcat ttgagccttc gaatatgatg gccaaatgcg atccaagaca cggaaaatat 120  
atggcttgct gtttaatgta ccgtgggtgac gtctgttcaa aggacgtgaa tgcagctggt 180  
gcttctatca agacgaagcg tactattcaa tttgtagact ggtgtccaac gggattcaag 240  
tgccgtatca actatcaagc tccatctgtg atccctgact cagaattggc taaagttcaa 300  
cgtgcagtct gcatgatttc caacagcact gccatctctg aagtctttgc cagaattgat 360  
cacaagtttg atcttatgta tgcaaagaga gcatttgctt attggtacgt tggagaaggt 420  
atggaagaaa gtgaattttc cgaagcacgt gaggatcttg ccgct 465

<210> 3660

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-A8

<400> 3660

ttcccgggtc caccacgcg tccgcataag aattgaaagg acaagggtgt tgtgttcac 60  
agctcagtca accgcgcgtt tctcagtttc gactacaaga cgttggtctt cctaaagact 120  
ttcgttaaac ttcattttca cgtttaacgg gctgatgatg taaagttcct cagcagaat 180  
tacaaggctg cttgagtcgt tttttgccgc aaccacacag ttgtatcccg agttacagat 240  
ttggttcgga ttgtctcttc cattcaagcg atctatctga tgtgtactta tcctctacaa 300  
gagacttttt cattcacgct cgtggaatac ccttatacta tggcaatatt ggatcagcta 360  
acgtattgtc tgatttgta 379

<210> 3661  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-B11

<400> 3661

cgggtccgaga ttcacggggc caccacgcg tccggaagta aatagacgtt tgaaaggcgt 60  
ccagtatgaa aggagaaacg agtgtagcac tgtctagtcg tccaactcag cgaaacagca 120  
ataactgtga aaatgcagta aactagcagt aggacggaaa gaccccataa ttcttgacta 180  
gataggttta gggaggagag agaatcatga agtagaggag gtggggtaag agatgaaaga 240  
ccactgcatg aggataagga atctaactga gtaaggaaaa taagcttaag ctagtttggc 300  
tggggaagta aagcctaaga aagagtaaag taggcaagca aaggcatgag agaagtataa 360  
tagcagaagc atgcttgaag aaaaagaaag agatttcaga aagggaagaa aagtcagcta 420  
tagagaac 428

<210> 3662  
<211> 440  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-B2

<400> 3662

ttcacgggtc gaccgacgcg tccgcccacg cgtccggcag aaccagcgtt tgatctcgtt 60  
ggaaagagag tccaagtctt cattagaatt ggaactagca gaggagcaag tagaaaagaa 120  
acagttcgaa tgtttcttac agcatattcg attggaaagg ttggaaaaaa atgtaatatt 180  
tatagaaaat gagtggagta gtggtcttat tagtatgcag tgatagaagt tgttggcacc 240  
tttattaaaa gccctcagtt gggaagaaag atcctggagg acggcctccg tgcgaaatagc 300  
cactgactcg ttgcggagcc aagcgcttag cgccgttaat actttgcgag ttcaagactc 360  
tagagatatc tatgtcttgg tatagagcac agctcgcaact ctccatactg gatgcacaac 420  
tagaactttc cttcgttcgc 440

<210> 3663  
<211> 465

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-B6  
 <400> 3663  
 cgggtccacc cacgcgtccg cagacgcgtg gggtcatatg caagaaacgg agtttttgct 60  
 tcatggaggc gatattcggt ggcttgagtc cgatgagaat gttccaccaa aacttttagt 120  
 tattcgtgaa ttgaatgcaa tcttagctca tcaaccttgg ttattgaaaa gtgagcactt 180  
 gcaaagacta gctcatccag cttcctcttt ggggtggtaa gtttcgtggt ctctaagtga 240  
 atgtgttttg gctattctca tatttagcca ttttactcgt ttggcagggt ttattgaagg 300  
 atgtggactt tgtccagata ttgatatgga tagcagagat tctctgtac gtcttttatt 360  
 gacacgagaa caggatggcg gtggaacaga agaagaggag atggcaacaa agacaaatga 420  
 tgctttacaa tcacctccat ccgaagtgga agctactcga cagtt 465

<210> 3664  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-003-Q1-E1-B7  
 <400> 3664  
 aagctcttcc ttatattctt tgtgcttggc caatgggtgc aaagactgct ctgagttgcc 60  
 tctttctctc tttccttctc gctgccgcag ttgcagccga cgtagtttca gaggagagat 120  
 ggggatatgc tcagcaaacc caacaacagc aacagtgcc acaagtatgt aaacagtatg 180  
 catactatca gagtccagtc tgcacttccg taaccacaca gagcccatatc tggaccaat 240  
 gctcgaagac tgtgcaaacc tttgtcccaa gccagtgcag tacttatacc caatctccta 300  
 catggaccta ttgcagcann ctacacacca ctagcgtacc atctcaatgc agcaaggccg 360  
 tgac 364

<210> 3665  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-003-Q1-E1-C10

<400> 3665

gggtccaccc acgcgtccga agaaatcgat gaaattgaaa ccaattaaaa aatgaggtat 60  
aaaaaatggc ggtccaaact gtaaggatca aaaggtacca aattaaataa acttttgaaa 120  
ggcttcaatt ataaaaggaa aaacgattgt aacactgtct agtccgtcca actcagcgan 180  
acagcaataa ctgtgaaaat gcagtaaact agcagtanga cggaagaac ccataattct 240  
tgactagata ggtttaggga ggagagagaa tcatgaagta gaggaggtgg ggtaagagat 300  
gaaagaccac tgcagtagga taaggaatct aactgagtaa ggaaaataag cttagctag 360  
tttggtctggg gaagtaaagc ctaagaaag 389

<210> 3666  
<211> 434  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-003-Q1-E1-C4

<400> 3666

cgggtcgacc gacgcgtccg ggaaaggaga gaaagaggaa agggatgaaa tgcagagatc 60  
tctagagaaa ggcaagaaag aaaagaaagg aagacacagt aatgaggcg agaaagcata 120  
ggaagtgaaa cggattagga acccgtgtag tctatgcagt aaaagaaaga atgagtaaga 180  
aaaaaggagag tcattccacc aggggagtaa aggcgcaaga aagaaacca aagcaattga 240  
cgggaatcgg aaaaaggggt ggatcacgta aattaatccg atataaaccg agaaccttac 300  
ctctccaaga aggtgttgca cggctgtcga aagaacgtgc tgtaaagaat ggaacaagaa 360  
cgaaaaanaa aaaaaaaaaa gaaaaaaata aaaagaaaaa gacaacaaaa aaaaaaaaaa 420  
acacacaagt gaac 434

<210> 3667  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-C9

<400> 3667

cggtccgaga ttcacgggtc gcaccacgcg tccgggaatg cttcatgtgg cgattgacgt 60

tgctgttgcg ataacagagt gcgaattgta gacacatttt ccacaaaatc tacttcccaa 120

agcaaggatt ctctaatcgc atcactgatc atcggacttt gcaaccacaa tagcccactt 180

taacggacac ttccgaagca accacagaat tctcggccac aatctttttt accgatcctt 240

ccgtcgatca accgttggaa ccttttgtgg atcaaaatat agctgaagat atcacattac 300

cctacgaaat aagtaaagaa tgggggaaca aattgggtac cgtatgaaat aatttggggg 360

attgtttacc acaatgaaaa gatcgacgac aattgcgagt acaactcatt ctaaagctgc 420

aatcaacaac acggattgtg ct 442

<210> 3668

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-D10

<400> 3668

cgcggtccgcg gacgcgtcgg ccgacccggc agctttggcc cgcaaaaaag gtggtgcacg 60

gctgtcaaaa gaacgtgctg tgaagtgaga gaacgtacga gaaagccaag tgaggaaaag 120

aaggcaagta gagggcggcc cgagaaagga gagggcgtaa gacgtgatac agagtaggaa 180

gaaaagagaa gagagctaga aaggaggtaa aagaagagta aaaggactag aagaggtacg 240

gaattcacga ggaacgagcg tgaaggaagg aggaatccca agtaatcgac gaagaaaaag 300

cttcggtgaa agcgtgaacg gatTTTgtac aactgcccg tcaagttctg gaagtgtgct 360

aggaataagc aggagaagta caagagagta cgaaaagaag aaaggaagtg 410

<210> 3669

<211> 279

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-D3

<400> 3669

tgTTTTcatg gtagcagttg tacattcaac atcatcaaT gccaaaggga ggaaagaaag 60

attcttcaaa gaaagaagcc acaagtaaac ctgcagcagc agatgctaca aagacgacag 120  
aaaagtctgg tccggaagcc aagttgaagg gaactggtgc aaagaaacaa taaaaagttg 180  
actatgcatg tgcagtcttg ttatgttttg tgagttctgt ttgatagttt ccagctattc 240  
ttttggtagt gaataaagag aaaatttttt ataaaagaa 279

<210> 3670  
<211> 277  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-D8  
<400> 3670

ccacgcaatc cgcacacgcg tccgataagg cgctggaata tcttttgaaa caagcttcca 60  
cgccaaaggt tgcttcttct tcataagaaa gttatatact tttctccatg tcttgatatg 120  
agtcccgttc tcttcttttt atctatatat aaataaatgt gttttcggaa tcaagtttca 180  
aggaaaaaaaa aaaaaaaaaa aaaaaaaga agaaaagaga aaaaaaaca aaaagaacaa 240  
ggtaaaaaag gggggcggtt ctagaggatc aaagctt 277

<210> 3671  
<211> 427  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-E12  
<400> 3671

gggtcgagcc acgcgtcggc caacacgtcg gccacgcgt ccgggagttt ttaagaggca 60  
tcgacaatcc tatcggcatc aagtgtggac catctttggc agtcgatgat ttacttcggt 120  
tgttggatat tttagatcct gataatgagc ctggacgtat tacactgatt gttcgtgttg 180  
gagcaggtcg agttgccgaa catcttccaa ggttttaga agcagtgcgc aaggaaaata 240  
gacaagtggg gtggagttgt gatcccatgc atggcactat ggaaacatcc aaatctgggt 300  
acaagaccag aagatttgag aatattctgt cagagggtcaa agaattttat gaaattcacc 360  
gtcaactcca ttcctatccg ggtggaattc atttggcaat gactggacag aatgtcactg 420  
aatgtat 427



<210> 3672  
 <211> 391  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-E2

<400> 3672

```
attcacgggt cgaccgacgc gtccggcaaa gagagcgtta cctccgcgca aagttagttt 60
tttgtcacct caatcgggtga acaaagtcgg aagattgtgg agtttgagtt ctctgtgtatc 120
tagtttttcc gacaagattg gttcacagtc tcattttctc catttcgtgg accgcagccc 180
agacgcgtct cgtcaccgag caagtcccag gggacgtgaa agggctgatg caggtccagt 240
gatgtcaaca gcgaaagttt atccggactt cacgttaaaa gaaccaggg aatatgggac 300
taataaaacc ttggaaattg gccgaattaa cggcaaaaat tccaaattgg taacaaaatt 360
gggaaagggc aatcacgtta aattttttaa a 391
```

<210> 3673  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F1

<400> 3673

```
gagacaaaac gaatactaca tgatgacttc caaagggtgc aagatcccat gtctcaacag 60
gatttactag tggcaatccg acagactgta cagcagttgg aacaaatatt tacagataga 120
tatecgtcaa tgccatcggt ttggaacgcg ttggatcgaa atgttgacac aacgtttcgt 180
tccgctttga gttgacgcat agaagattca catgaaggag gatagtgaat gacaatgtga 240
gtgagctgca tggacgatag atcgttgggt cttgaaagaa atttacttct agacgagaaa 300
gcagtgtgaa tttttactaa acagttttac taacaacgaa aattttcgcy cctggatagg 360
aattggcg 368
```

<210> 3674  
 <211> 444  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F11

<400> 3674

ccggtccgag atttacgggt cgacgcacgc gtccgcccac gcatccgagt atttcatttc 60  
acattctcct tgtagaaaac tatgaagtct ttcggaattg ctattgtttt cctaagcttt 120  
gttattgcat cttatgcagc agttgtatcc gaaatggcat ccaatgagtt tcaaagagga 180  
ggatacgctc cttctccttc caaggaatgc tgcataacca cttgtcaata tgcagaactt 240  
tgcccaattt ctcaaccaac ttatagccaa gctccatctt acattccatc tcctacctat 300  
ggccaagctc cttcctacaa tcaatattct tcttcgtacg gttcctctag ctatcgtctc 360  
ttaactgcag acgaaaacca acttgtgagc agaggaggtt atgcaccaac caaccaatgt 420  
attctagttc ctatccaatg ctgc 444

<210> 3675

<211> 416

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F12

<400> 3675

gggtcgacgc acgcgtccga actatatgcc gcagtctacg cagaggaaag tttctggcag 60  
ttggattcca aagagtctgt tgtgaccata tatttggaca aagtgaacaa aatggagtg 120  
tggcctaagg tcgttaagtc tgagccagaa attgacactt caaagataga acctgaaaat 180  
tccaggttga gtgaccttga cccagagaca agaagtatgg tcgaaaaaat gatgtttgat 240  
cagaggcaaa aagctgctgg actcccaact agtgatgaac ttaaaaagaa agaactatta 300  
gcaaagttta tggaacagca cccagaaatg gacttttcac aagccaagtt ttcataaaga 360  
aagacagacg aatggaaacc aaaacaatcc gaagaagcca gttttcgcgc ctggat 416

<210> 3676

<211> 490

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-003-Q1-E1-F7

<400> 3676

gcctgccggt acaggtccga aattccccggg tccacccacg cgtccgattg cctcttgtct 60  
cgtaatgtca ttgcctagtt ggatacttgc ttcacacaag atagaaaagt tggatttgaa 120  
ttggttgga gaggatattc ctagttttga ctatggtgct caagcagtag gtgacaagt 180  
gacaactgcc acactctatg ccaagtctca aggtgtattg gcaggcaaac cattctttga 240  
tgccatcttt caacatcttg gttgcacagt gcagtgggaa gagtcctttg atgatggacg 300  
ttgtttggat cctactttg tctctctc aggcgtggaa aatggacttg gaggattgtt 360  
gacgctggca agaatacaag gaccagcttg taacatatta cgtggagaac gaaccgcttt 420  
aaatgtattg gcacgttgta gtggaatagc tactagagct tttggtttga gtcgattggc 480  
acaacaacac 490

<210> 3677  
<211> 372  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-F9  
<400> 3677

gggtcgacgc acgcgtccgc gacgggatgc acttgaaaag ggactcctcc cctccttgca 60  
acttgggctg gtaaaaaaac taaactaacc aaataaagta tgtaaaaaac attcttattc 120  
cttgacaagt tttagatagg aaactacaaa atcattcaac aatcctataa agtatcacgc 180  
ctaagagaat gcagcattga attaaaaaaa aaaaaaaaaa aaaaaaaaaa ataaaaaaaa 240  
aaaacaaaaa aaacaaaaaa gaaaaaaaaa aaaaaaaaaa caaacaaaca ataaaaaaca 300  
aaaaaaaaata aaaaaggaga aaacaaaacc aaaaaaatga acaaaaaaaaa aaaaaggggg 360  
gcgcccccaa aa 372

<210> 3678  
<211> 433  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-003-Q1-E1-G11  
<400> 3678

gtccgagatt cacgggtcga cgcacgcgtc cgggaaaaag agagaggcct cgttgtcctt 60

gtcttatgga agcgtctcag cgatggactg gtcgatatat ccaaaagtgc cttctcactt 120  
atccatcact tggacagttg agtagtaa ataggagagag tgaagaaa aactacgcag 180  
aagatacttt ggaggaatat ttacgtttc ctagagagag tgaaagaa aactacgcag 240  
tgaattggtc gttggcaaag ataggagtgc ctcaaagg tgaagttttt tacaacgtgc 300  
cttcgaggac gattgttgcc aactgcctg gaaagcttag ccgtgagagg aggcacttgt 360  
tgggtcccca tcaaaagacg ggcaacttcc aggaatttgt cctaggaaat aacttganac 420  
cgagagaata tgc 433

<210> 3679  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-G2

<400> 3679  
ggtcgaccga cgcgtccgga catgtcgtct tcggtacgg ttgaagaaat tcaacggttg 60  
attgcttcag cttttgtagt tgttttctcc aagtcttggt gccctttttg tgatagagta 120  
aagcagctgt ttagatcctt aggagtctct ttcaaagtaa ttgaattgga tcaggagaaa 180  
aacggttcag ccattcaaag tgcattgtat gaattgacga aacagagaac cgttccaaac 240  
gttttcataa acggacagca cgttggtggt tgtgaccagg ttatgcaact ggaaagaaaa 300  
ggtacattga aaaagttact tgagcctggt ttgacggcct aaaatgcgtt atctactgcy 360  
cagccatata gttgccgctc cagtcttcta tttagaacag aaactcaagt catgaaattt 420  
ggaaaataaa cagccgacat tgtctttac 449

<210> 3680  
<211> 472  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-003-Q1-E1-G5

<400> 3680  
taccaggtcc gaaattcccg ggtccacca cgcgtccgga atcaagtatg tgtgattgct 60

tcagcttggtg gaccgaacaa tgcgaatac gattccacat ttactgcatc caattccatt 120  
gcttatcatg actgtttggg acagtctatt gtacaatatt gtcgtgtcat tcccgatggc 180  
attatttggt tctttccctc ttatcgttta ttagaaaatg tggttcgacg ttggcgtcaa 240  
tgcgatattt ggaaagaatt ggaaaagtgc aaacaagtat ttatcgaacc gagccatcat 300  
gaccgaggtc atttcgatac cattttactc tcttattatc atgccattca caagaaagaa 360  
ggtgccttat ttttagcagt ttgtagagga aaagtaagtg aaggaattga tttcaaggat 420  
gagtttgac gangagtgat aattgttggt ttaccttttc ctaatttgag ag 472

<210> 3681  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-G9  
<400> 3681

gtccggaaat accgggtcgc agcacgcgtc cgatatcgta tgttggtggt ctggttgctc 60  
aagggtgtgaa atggcagtag ttgaagataa cagagtcttt gttggtggtc ttccttggtc 120  
agttagttaa gaagaccttc gtgaaacttt ttccaaatat ggagaagttg ttgatgcaag 180  
ggtgaatata cgtgttcctt ttgttttggg ttaaaacttg ctccttgac tacctgcacc 240  
tattctcggg ttccttttta ttgccccat agttagtgtc actatctagt cgcattgtac 300  
tttgagaggg tagagagctt ttctagttac ttataactg ttcacacttg ggaaccctcg 360  
aaaatagtgt gaaggatatg cagttggggt gactagtgtg caccaaagtt gttgttacta 420  
tatagtgtc acaat 435

<210> 3682  
<211> 322  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-003-Q1-E1-H11  
<400> 3682

ggtcgacgca cgcgtccgcc cacgcgtccg cccacgcgtc cgcccacgcg tccgcccacg 60  
cgtccgccca cgcgtccgaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa ggaggatgat ataaaaggta aaaaaattaa 180  
 ggtaggcttt cataaaagtt caaatctttt ttatgggtga atgtaattta aaatctttgg 240  
 aagtggtttt ataaatttaa tttctgggag ggtcttttta aaagctagtt tttgggaaat 300  
 ccttgagatt tcccttttta aa 322

<210> 3683  
 <211> 296  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-003-Q1-E1-H4  
 <400> 3683

tttttcggat ttcttttctt tcatgcttta acgctctcca ctcaaggtaa gcgttccttg 60  
 tcgcaaactc aaagttgttt tggtaggagt ggtgaaggca gcggagggtga cgggtggtcga 120  
 aagagtagtg aaggtagcga aggccagggt ggatagtcga gagggaaaaa gcccagaagc 180  
 caagataagg tatcaaagta aagaaagaag gaaaaggaga agaagagagg gtaggcttag 240  
 aagcagcaaa ccagagagga aagcgttaaa gcatgaaaga aaagaaatcc gaaaaa 296

<210> 3684  
 <211> 322  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-A1  
 <400> 3684

ctgcccgtac ggtccgagat tcacgggtcc acccacgct cegtacaagc ttccaaattg 60  
 tttgaaagtg tgctgtcatg actaagccat tttgcattgc aatcgcgact acatttatgt 120  
 ttacaaacat gccttaccga atgtcatcta ccgacctagg tgaacccatg cacagtacga 180  
 ctgcattgtc caacattacc caagcgggtct ttttcacaga tatcgacttc acatgggtcta 240  
 tagaacgtgt cacagttaca agcgtccca acgcaaactc aatgtcagtc acatttgacg 300  
 gacagttgat taagtcagca tc 322

<210> 3685  
 <211> 454  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-A5

<400> 3685

attcgcggtg cgacccacgc gaccgcaa tccacgactc cgatgttgag agcttccgaa 60  
aaggcgcgta aaccacgcgt tcatatcttt gatggctcctt ccagtgaaga tatgcccttt 120  
tttatggagg aaataaagaa aataaagttg gcagaacttg ctatgttgaa aggagaagaa 180  
gaaggaggag aaaccggcca cgcagaagcc ctagcagggg aagcttctga accttggcat 240  
aacaactggg atgttgctca cttggaacaa gaggaaaagg aaatacaaga cttgaaagaa 300  
gaaatagaga gacttcaagt cactaagaag gaattgtttc agcaactaaa ggaagtcttg 360  
atggaagaaa ggcgggataa gagagagacg acactccctt agttgtgttt gtacaagtct 420  
attttacaag ctctctttat gaacctttcc aact 454

<210> 3686

<211> 476

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-004-Q1-E1-A7

<400> 3686

ttcncgggtc caccacgcg tccgcacacg cgtccgtgaa ttcagaagcg acctcagggtt 60  
agtgtactgc gatcatttta gaaccccaaa tgccctgagt cttgctagtt ttcttttata 120  
gagaagaaaa tatttgataa gaaggcagga agaaatgcac gggcactaat atgtgctgaa 180  
atatttttga aatactagat tgtgctctat ttgatgacga cagaaggctt cttgttctga 240  
aatggccctg tcttgaaaag tcgatatagc taagggataa ctctaagagg tgtttaatgc 300  
cttgtgtttt ccaccatag acacgacact tgttgaaaag aatcagctgc caaattgtgt 360  
tttgattcgg ttgtgttaaa gttgttcagt gcttgatgaa caaagagggtt ccaagcctg 420  
caatagaagg agaaaattta ctctcactga gaactttcga ctgatcagag caagat 476

<210> 3687

<211> 316

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-A8

<400> 3687

ggggccaccc acgcgtccgt aggggaatttg ttttggtgaa ccggcaggat ttagagaagt 60  
atataatcgg gtttcctgga attgctggca gtggagtgag cgctggagaa cgtgcagtag 120  
aagccctgtt aaacgaaacc ctatatgtta atgtagatct cagggacttt ccccgttttg 180  
atggggaata ttttatacct acgcttttaa agaagattag caaagaagct ctttccacgc 240  
taccaaataa gccagaattg ctgcgcaaag ttttaaagaa taagaaagac ccaaaaaagt 300  
gggtaagccc cttaat 316

<210> 3688

<211> 398

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-B1

<400> 3688

cggtccgaaa ttcacgggtc gacgcacgcg tccgggttac caaagggagt aacgggaaca 60  
gctttaacct ggttcctatt gatcatgggt ttatcttacc agacaaattt caaagctatc 120  
cttggcctgt ttggatggac tggcctcagg taaaggagcc ggtttgcgaa gatgtaaaga 180  
gatatgcaga aacgctagac ggtgaaatgg acgctcgtct gatcttggac gaaacagatg 240  
gcgactgtc aaagaatagc ttaagaattt tgcgcataat gactgcgctt cttcagagag 300  
ccatggagaa gaaccttact ctgtatgaag tcggttccct tgtatatgtc cgcgatcccg 360  
acacagaggā aagcgagttt tcttccatta tgcgagaa 398

<210> 3689

<211> 393

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-B4

<400> 3689

ttccccggggc caccacgcg tccgcagacg cgtcggggaa cacatggggg aagatataat 60  
tcaagatgca gtacattgtg ctgaccttc tgatcgggaa aattgtcctc aacagcgtgc 120



ataagtgccg gcacaagttg caccacgtta tgcacgaagt tttgcacata taccaggaga 180  
 taatccaagg atgactctaa agatgacgcg aaacttgaag catcacactg agcagcatct 240  
 ccatgcggtt cacactgagg tatcgctgat ggattcaggc attgaagcac agttcaagta 300  
 acagatcggt tagcacattg ttttgcacat gagttacaat gagatgtata tagcatggag 360  
 tgtaacaggg aatgtagatt attagcgaaa aca 393

<210> 3690  
 <211> 478  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-B6  
 <400> 3690

taccgggtccg tacattcacg ggtcgcagca cgcgtccgga agagattaga tagagcacct 60  
 gtcattgcta ttaaacgcat tcatatggac gagaaactag caaaagctgc ggaatacgcc 120  
 ggagctcacc ttgttgaaga acgttctgta gaaaatgcag tttttgacaa tgtcaaaaaa 180  
 gtatggaggg tgaatacagt aaaggaagat ggatcgaaag aggaggaaac atatacagga 240  
 agaattgttg tttgtgcgga tgggtgctct agtcgacttg cgatgaagtt agggttggta 300  
 tcttcacctc cacagggtag ctgttccaga acctttgtgg aaaggaaaaa tcaaaatttt 360  
 tggacagacg ggctgtaat ttatccaaga gatttattgc ctggccattg cgcagttttt 420  
 cgtcaaccaa atgatgaact gaacctttgt ccctaaaata atcctggaaa tccaaaag 478

<210> 3691  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-B7  
 <400> 3691

ttccgggtcc acccagcgt ccgcaatggg gcaaaaatat tcgaccacta tttgccgcac 60  
 cactaacgac aagccacatg ttgtatgcta caaagaatag ctggctgacc attccatctg 120  
 gctgcacgt tctatgtcgt agtgcgttta cccacggttc catagcagca gtttcggaaa 180  
 gcgatccttc taccgctcca atgtcgaaaa ataaaaaggc aacgaatatg gaaacgcagt 240

cttttgtggg gagcgtgacg ggttcagacc gagtaggcat cgtacacgat tttagttggg 300  
 cactgaaaaa tatttctgcc aatgtggaat cgagtcgaat ggcttgtctc ggtggcgact 360  
 ttgcaatgat tgtgttggtc agtttgaata agaaggatgg aaggttgata cagtcgacgt 420  
 tagagtcagc cttaccaggg tttcaaatta gtact 455

<210> 3692  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-C1  
 <400> 3692

ggtcagagat tcccgggtcc acgcacgcgt ccgaatttac aagaagaaga agaagaaaca 60  
 acaacgacag cacctaaacg agcagatgtc ctgaactgga tacaagagtt tggtacaag 120  
 atggatttat ttgaaaatta attggaaact ttttcagaat acacaaattt caaataaaac 180  
 agatattatg taaattgttt cagaaaggaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaaaaaa gaaaaaaaaa caaaaagaaa aaaaaaaaaa gggggcctcc ctaaaagatc 300  
 aaaacttttg tacacgggca cccaaattca aatcactgcc acgggggtca ccaaaa 356

<210> 3693  
 <211> 351  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-C10  
 <400> 3693

gaagtcagca gtggggaaaa ttgggcaatg tacagggaag tatgaccag taatgaggag 60  
 tggagtaaac agaaaaggaa gtaaaaggag ggaatgaagg gaagttatgg caaaaacacg 120  
 tgccagcagc agcggtaaaa cgtgtgtagc aagcgtagag cagaagaact ggggtgtaaag 180  
 gtcgagtagt agagtaagtg taaaagggaaggaggaggagg agaaagagga aagggatgaa 240  
 atgcagagat ctctagagaa aggcaagaaa gaaaagaaag gaagacacag taaatgaggc 300  
 gagaaagcat aggaagtgaac acggattagg aaccogtgta gtctatgcag t 351

<210> 3694  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-C2  
  
 <400> 3694  
  
 tccgggtcca cccacgcgtc cggaaagtta cagtggcttg gtaaaactgc ttttcgttag 60  
 tttttacgtg aaaaaaaccc ctcttttttg agtgaaataa ggctttacgt catctgtggt 120  
 cgtaccttag gcatattgtg acatacttgt ccagatctag tgaataaact acatttttaa 180  
 acaaaaaaat aaaaaaaaaa aaaaaaaaaa aaaaaaagga atacaaaaac aagaaaaaaa 240  
 ggtcagcccc ccgataggga acgacataga gtaagagtaa agtcaacttg aaacacctga 300  
 tatgtcctcg actcagagcg gctcacagga cgacgatata tagtgacttt tcagg 355

<210> 3695  
 <211> 462  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-C3  
  
 <400> 3695  
  
 ccggccgggtc cgtaaatacc ggggtccacgc acgcgtccgc ccacgcgtcc gccacgcgt 60  
 ccgcccacgc gtccgcccac gcgtccgccc acgcgtccgc ccacgcgtcc gggaaaccag 120  
 gttatgagaa cttgtgttct cttgccgtca tttcgaagac caacaccaac ttccgaactg 180  
 caggagtttg tagagtgcct ttgaaagata gacacggaca aataacccca aatgttctca 240  
 caggatgtat ttcttgtgct tcgggtgacg gtgggtcccat ctggtgggac gatcctattc 300  
 cagataatct gttgcaaaaa ctgaaagagt tgggtcagct gcctccagag gaagaagaaa 360  
 agccgagcga cgacaaggag gacgaaaaga aggagcaaga agagacgcaa ccaaaggagg 420  
 aagaagagaa ggaagaaact gttgcaagtg acgagagacc ag 462

<210> 3696  
 <211> 456  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-004-Q1-E1-C5

<400> 3696

gggtccaccc acgcgtccga agagtaaaag gactagaaga ggaaagggtt acgagagaag 60  
gaagtagaaa gaagagagtg taaggcggcg tcataataga aatccgaaag gagtagaaga 120  
aaagagagag aagaaagaaa agaagagaaa aagcccagaa gccaaagataa ggtatcaaag 180  
taaagaaaaga aggaaaagga gaagaagaga gggtaggctt agaagcagca aaccagagag 240  
gaaagcgtta aagcatgaaa gaaaagaaat ccgaaaaaga agagaaaaag gtaagaaaga 300  
ggaccgaatc agggtaagag gtagaggagc aagaagagaa gagagaatgc tgggtggagt 360  
agcgaaacaa gagaagggaa gtaaaaggta agaaagagga aaggtttacg agagaaggaa 420  
gtagaaagaa gagagtgtaa ggcggcgtca taatag 456

<210> 3697

<211> 232

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-D1

<400> 3697

tgacgggtccg agattcacgg gtccacgcac gcgtccgcaa taaaactatc cagcttggat 60  
tttagttctt gtcgtgaact actaaataaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120  
aaaaaaaaaa aaaaaaaaaa aaaaaaaggg cggaagccca aaaggatcaa accattactt 180  
acgcgtgcat gcaacgtaca tatctcttca atagtgtcac ctaacttcaa tt 232

<210> 3698

<211> 356

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-E1

<400> 3698

ggtccgaaat taccgggtcg acgcacgcgt ccgcggacgc gtgggctggg ttggttgggg 60  
tgagcatgcc gccgcaagta gaaacaagta caccttctgg tattgcagta ggcctgaata 120  
aaggacacgc cgttacgaaa aggaaatctt caaccaagg actgaaaagg gagaaaaaaa 180  
cacgccaagt ttgtacgaga aatcatccgt gaagtttgtg gggttgctcc ctatgagaag 240

cgaatcatag agttgttgag agttgggaaa gataaacgtg cgctcaaata tgcgaagaaa 300  
gaggcaaata cgggaaagca gtaaaagaag aaagagaaag aaaaaaactg agtatc 356

<210> 3699  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-004-Q1-E1-E4  
  
<400> 3699

tggtagcgtt gcccgtagcg gtccgaaatc acgggtccac ccacgcgtcc gtatccgagt 60  
tgtgtcgttg cctcatggga cgtattacgg agtgggaacg acccgttcct cgtaaccag 120  
ttatcgaccc aaaacctaaa acgggtaaag taaggagcaa tttggatcca accgaatacg 180  
gtagaaatgt tttgcctact tccaatgggt gcaataatgg tttgacttca gctacaagaa 240  
caacaagaac aagtagtgta ttcattgggag ggctttccgg tttttggggc tctaaaacgt 300  
gggcttatat gtccactata aacaaactca cagggatgaa agataacggg ctcggtcgta 360  
taccgatcga aat 373

<210> 3700  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-004-Q1-E1-E5  
  
<400> 3700

taccggatcg aaattcgagg gtccaccac gcgtccgcac acgcgtccga gaaagaggca 60  
aatacgggaa agcagtaaaa gaagaaagag aaaggaaaaa actgagtatc aggaagaaaa 120  
gagggagtag atgaggaaaag aaagatcaag gaagtaagag taagagaagg agtaatgtga 180  
atgaaagcag gaaagtatct gaagaaagag gcaataacgg gaaagcagta aaagaagaaa 240  
gagaaaggaa aaaactgagt atcaggaaga aaagagggag tagatgagga aagaaagatc 300  
aaggaagtaa agcctaagaa agagttaaatt aggcaagcaa aggcattgaga gaagtataat 360  
agcagaagca tgcttgaaga aaaagaaaga gatttcagaa agggaagaaa agtcagctat 420  
agagaacagg tgaaggagaa ctcaaaaag 449

<210> 3701  
 <211> 472  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-E6  
 <400> 3701  
 ggggccaccc acgcgtccgg aaacgttttag agttggagca taggtgtaga cggctattga 60  
 ctcgttggaa agaaatagga gatgaaataa acaagacagg tactggtaga aagagcagat 120  
 tggagctttg tagacaagag caagaaacaa ttatggaagc tgtaaaggca gaacggaaaag 180  
 ctcttcgaga atggaaagag aagagacgaa attggattca acgaataatt cttcagcaca 240  
 ccaaaacaac cgcagcgacc aaatagacat gaggggacat ttggaaattg gtttgctgcg 300  
 tcggtgaagc gcacggaaat attttctagt catgcaaata tttgtgaaaa cgttgacagg 360  
 aaagaccata acgttagagg tcgaaccttc ggatactata gaaaatgtga aatcaaagat 420  
 tcaagataaa gaaaggtata cccctgatta acaaaaaaca acacaaggca cc 472

<210> 3702  
 <211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-E7  
 <400> 3702  
 attcgcgggt ccaccacgc gtccggatct atgggagaaa cttattatcc tgagcgaaag 60  
 agtcaagaaa cattagacgc tgaagaactt caacaaagga agagcatgaa taagtcgagt 120  
 tcggaacgac caaaagaaaa tgttgcagct gcatcatagt tgagtttgtt tctatcataa 180  
 acttattatt caacgtggcg tacttgttta cgttgttcca ctttgtgtgg ttttttcttt 240  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa acctaaaaca aa 292

<210> 3703  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-E8

<400> 3703

ggccctgccg gtacgagtcc gaaattcgcg ggtccaccca cgcgtccgca gacgcgtggg 60  
tagccttgga aacaatgaag aaaggagaaa aggcgattgt gactatttca cctaattatg 120  
cctatcaggg agttggaata gaggtccac caggtgtttc aagagatgct acagttcaag 180  
tagaattgga actggtttca ttgaaagag cgaaagagtc ttggaacttg tccaaggaag 240  
agaagattga aaactcgatg cgcattaaag aaaagggcaa tgagttgttc aagtctggta 300  
gatataaact tgcaagaag aagtatgaaa aagtgataag cgatttggag ttgatgtgc 360  
gtaacaag 368

<210> 3704

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-F12

<400> 3704

taccggaccg agattcgcg gtccaccac gcgtccgcat tacctctcca agaaggtgtt 60  
gcacggctgt cgaaagaacg tgctgtgaag tgagagaacg tacgagaaag ccaagtgagg 120  
aaaagaaggc aagtagaggg cgccccgaga aaggagaggg cgtaagacgt gatacagagt 180  
aggaagaaaa gagaagagag ctagaaagga ggtaaaagaa gagtaaaagg actagaagag 240  
gtacggaatt cacgaggaag gagcgtgaag gaaggaggaa tccaagtaa tcgaggaaga 300  
aaaagcttcg gtgaaagcgt gaacggattt tgtacacact gcccgtaag ttctggaagt 360  
gtgctaggaa taagcaggag aagtagaaga gagtaggaaa agaagaaagg aagtgaagac 420  
gtaagacgtg 430

<210> 3705

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-004-Q1-E1-F3

<400> 3705

ggtcgagtca cacgacgggt caggcatcag cgactgttta gcaaaaacac agcactctgc 60

agaaaagaga aaatgtaaag tatagagtgt gcggcctgcc aaatagtaga gaagaaatcg 120  
 atgaaagtga aagcgagtaa aagatgaggt atagagaatg gcggtcctaa cggtaaggat 180  
 ccaaaggtag cgaagtaaag agacgtttga aaggcggtcca gtatgaaagg agaaacgagt 240  
 gtagcactgt ctagtcgtcc aactcagcga aacagcaata actgtgaaaa tgcagtaaac 300  
 tagcagtagg acggaaagac ccataattc ttgactagag aggtttaggg gaga 354

<210> 3706  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-F9  
 <400> 3706

cgctgcccgcg taccgggtccg agattcccgcg gtccacccac gcgtccgaaa aagcgatcgg 60  
 aagacacagt ggatgacgca ataaatcatg cgaagtgaca cgggttatga acccgtgtag 120  
 gcaacgctgt aatcgaagca atgagtaaga gaatggggag tcattccagc agtggattca 180  
 ccagggaagt aagagcccca gagcaattga cgggactcgt gacagggggg ggatcacggg 240  
 gttgattccg ttaaaccgac aaccttacct ctccactaac gtctcgaca gcggtctaca 300  
 gagctttctg tgaatgtga tatcgtatga gaaagcctac tgaagaaccg aatgcaggta 360  
 aaagggcgcc tgaaaaacga cacggcgtaa gacatgacat agaatatgaa gcagagttag 420  
 gagagctag 429

<210> 3707  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-004-Q1-E1-G10  
 <400> 3707

cacacgcgtc cggaagaca cagtaaatga ggcgagaaag cataggaagt gaaacggatt 60  
 aggaacccgt gtagtctatg cagtaaaaga aagaatgagt aagaaaaaag ggagtcattc 120  
 caccagggga gtaaaggcgc aagaaagaaa ccaaagcaa ttgacgggaa tcggaaaaag 180



gggtggatca cgtaaattaa tccgatataa accgagaacc ttacctctcc aagaagggtgt 240  
 tgcacggctg tcgaaagaac gtgctgtgaa gtgagagaac gtacgagaaa gccaaagtgag 300  
 gaaaagaagg caagtagagg gcggcccgag aaaggagagg gcgtaagacg tgatacagag 360  
 taggaaaaag aangaaaa 378

<210> 3708  
 <211> 266  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G4  
 <400> 3708

ggtcgacgca cgcgaccgta tgggtggttag caaattggaa atatcaagag aggttggtttc 60  
 attcacacag agtgtagctc taatatggac ttgaaccag agatgagttt tcgtttttcc 120  
 gcctggttct cgactcctgt tggtagcaca acttgagtag ctttctctcc ttttgtcaaa 180  
 gcagtcttct tgttcttctt gcgtcaagtc tttgttcgc gattagcctg cttgatttgt 240  
 tttttaaaaa gctacaaact ggggta 266

<210> 3709  
 <211> 369  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G6  
 <400> 3709

gggtcgaccc acgcgaccgc ccacgcgtcc gcttgcaagg ttggcgatca taccttgtgt 60  
 ggagggtccac aaatgttaca actttctctg gatggaacga gactgtatgt aaccaattcc 120  
 ttgttcagtt cttgggataa ccagttttat cctgaaatat cggatagagg ctcctatttg 180  
 gtaaaggtta attgtaacac ggaacaacgt ggaatggaac tcgaccattc cttctttgtt 240  
 gacttttgga aggaacctgg tggtccttgt agagcacacg aagttcggta ccctgggtga 300  
 gattgtactt cggatatttg gatatgacct agttgtaaga tgctatagtg aaggtagttg 360  
 ttgcttcc 369

<210> 3710

<211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G7  
 <400> 3710

ggtccacgca cgggtccgca ctttgcagta ctttccacca aaagtattcc ttctctatcc 60  
 acttcaaata cttgccacca ttgcactgtt ctttcaggca aaggtattcc acagtctttt 120  
 gcagccaact aaatacaacc acaagctata cattcagggtg ctactcgaca acacaagtca 180  
 gtacgcaaca tategtttgc atagttccaa gcacgttgca aaaaggactt ccaatgggag 240  
 tctccagcgt ccaactcggga gtgactcctc aaagtgttga tatataccaa aataaacttg 300  
 tgccgatgtt ctactcctgt atgaaaaaaaa atttttcaaa ggaaa 345

<210> 3711  
 <211> 400  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-G9  
 <400> 3711

ggagacccaa attaagggtga gagaatggac gataaggaac taggcaaaag gatatgggtat 60  
 ctgcggtaga acatatgaaa gaagcagcac cgactgttta gcaaaaacac agcactctgc 120  
 agaaaagaga aaatgtaaag tatagagtgt gcggcctgcc aaatagtaga gaagaaatcg 180  
 atgaaagtga aagcgagtaa aagatgaggt atagagaatg gcggtcctaa cagtaaggat 240  
 ccaaaggtag cgaagtaaag agacgtttga aaggcgtcca gtatgaaagg agaaacgagt 300  
 gtgactgtgt ctagtctgcc aactcagcga aacagcaata actgtgaaaa tgcagtaaag 360  
 tagcagtagg acggaaagac ccataattc ctgactagat 400

<210> 3712  
 <211> 270  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-H1  
 <400> 3712

ggagaagttt taacgtttga tcagttggca cttcgttccc ccaaggtcc caattgcatg 60  
 cttttgagag gtccgaaaca cgctcgcgaa gtttataaac actttgctgg tgttgctgtg 120  
 gaaggtcacg tgaagcctta tgttcgaaac aaggaaagga agctggaaag agctcgtgga 180  
 cgacgtccaa gccgtggttt caagaggaag ccaaagaagg tgtagttgtt ctatactttc 240  
 tataaataca caagttttcc tagtcaaaaa 270

<210> 3713  
 <211> 429  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-H10  
 <400> 3713

ttccgggtcc acccacgct ccggaacatg tggagaggct tttcacctga tcattccgag 60  
 gttggtcacg gtggattgat tggattgctg cgtgtgcaat gggtctatgc aggattggag 120  
 tatttaggat ttattcttgc tgttttgttt gttcctgaat attccaatgt tggacttcgt 180  
 ggggaggaca agcgttattt ggagttgaga actcgttatg ctgctcgtct agccaagaaa 240  
 tatggagtgg aacctgccca tccggatgac caagaagcaa ctcgactagg tcgtttctct 300  
 gtatggaacc tcatttcacg caagttgacg ggtactccgg aaagttttga agaagccaag 360  
 aaagaatata ttcgtatgtt gttgtctcgt tgttcgttgg aaaccaatga acaagtggaa 420  
 tattatgca 429

<210> 3714  
 <211> 267  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-004-Q1-E1-H3  
 <400> 3714

ttccccgggtc caccacgctg tccgcagacg cgctcgtgat tgtgatacca ttaagagctc 60  
 gatgatagat tgtttgaccg aacgtactgc gcacctaaact ggggtttcct gtgactaaat 120  
 gaatccccga catacgtttg ctcttcgaat tgtttatgat aacagtgtaa tttcaacgct 180  
 cgagttggaa catcatgtcg gtaattaagg atctaaactg gactcctcga caaattcgag 240

tactccacca actattccta atatatc

267

<210> 3715  
<211> 339  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-004-Q1-E1-H6  
  
<400> 3715

taatattctt tgtgcttgga caatggttgc aaagactgct ctgagttgcc tctttctctc 60  
tttccttatc gctgccgcag ttgcagccga cgtagtttca gaggagagat ggggatatgc 120  
tcagcaaacc caacaacagc aacagtgcc acaagtatgt aaacagtatg catactatca 180  
gagtccagtc tgcacttcgc taaccacaca gagcccatac tggacccaat gctcgaagac 240  
tgtgcaaacc tttgtcccaa gccagtgcaa gtacttatac ccaatctctt acatggacct 300  
attgcagcac ctacaccaac actagcgtac cacctcaat 339

<210> 3716  
<211> 217  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-A12  
  
<400> 3716

cccacgcgtc cgggtggaaga acatgaaagc acagaagagt aaaaggacta gaagaggtac 60  
ggaattcacg aggaaggagc gtgaaggaag gaggaatccc aagtaatcga ggaagaaaaa 120  
gcttcggtga aagcgtgaac ggattttgta cacactgccc gtcaagttct ggaagtgtgc 180  
taggaataag caggagaagt agaagagagt aggaaaa 217

<210> 3717  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-A3  
  
<400> 3717

gtccaccac gcgtccgcaa acgcgtccgc ccacgcgtcc gaaccagaca aacagagctc 60

agttcttctt tttatgatat ggattctctc aaggtttctt ccgagtcaaa tctaaagagt 120  
gttgctgatc aaaagagtgt gcaaggatct gccaaggagg taattagtaa tggcagtgga 180  
atctcacgga aaactgttcc aaaagataat atgcagaatg attattctgc ttggcaaact 240  
ccttcgacag gaaaagatac aattgtaaac tcgacatcga aagggtgttc atggaagatg 300  
aatccgcaag gaatggaata tacttcggca gaaacgactg gagttgtcta tagtggacgt 360  
caacctaaac ctgctgtgga taacaactca caagactatt cgagaatgga cacttt 416

<210> 3718  
<211> 272  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-A6

<400> 3718

gggtcgaccc acgcatccgg aagaaaagag aagagagcta gaaaggaggt aaaagaagag 60  
taaaaggact agaagaggta cggaattcac gaggaaggag cgtgaaggaa ggaggaatcc 120  
caagtaatcg aggaagaaaa agcttcgggtg aaagcgtgaa cggattttgt acacactgcc 180  
cgtcaagtcc tggaagtgtg ctaggaataa gcaggagaag tagaagagag taggaaaaga 240  
agaaaggaag tgaagacgta agacgtgaaa aa 272

<210> 3719  
<211> 375  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-005-Q1-E1-A9

<400> 3719

cacacgcgtc cgcccacgcg tccggaaaga agcagcaccg actgtttagc aaaaacacag 60  
cactctgcag aaaagagaaa atgtaaagta tagagtgtgc ggcctgcaa atagtagaga 120  
agaaatcgat gaaagtgaaa gcgagtaaaa gatgaggtat agagaatggc ggtcctaact 180  
gtaaggatcc aaaggtagcg aagtaaatac acgtttgaaa ggcgtccagt atgaaaggag 240  
aaacgagtgt agcactgtct agtcgtccaa ctcagcgaaa cagcaataac tgtgaaaatg 300  
cagtaaaacta gcagtaggac ggaaagaccc cataattctt gactagatag gtttaaggan 360

gagagagaat catga

375

<210> 3720  
<211> 266  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-B1  
  
<400> 3720

catggagaag ttcgcaaaag agtatgatga agacatgtaa catcaggtaa gtatatacag 60  
gtaagtatag gttttggatt tggaagaaac aagggtacttc aagtagtctt ctttgttgtg 120  
tataggatag agcataactt cttaaacttat ttatttgact tcaattgaat tataataaaa 180  
catttttttga ctaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aacaaaaaaaa aaaaaccaa 240  
agaacaaaaa aaaaacaaaa aacaaa 266

<210> 3721  
<211> 308  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-B10  
  
<400> 3721

cgggggccacc cacgcgtccg cacacgcgtc cgcggtacgcg tgggcggacg cgtgggggtga 60  
tccaactcga gcgtatcgaa aagaagcaac gagacattgg atggtatttc aacaacacgc 120  
cgaaagagac agagcttgat gaaggcactt acgttgtttg caacggattt ggcataaaga 180  
gtttcatgga ataataataa taataataat aggagactcc ttgactcaa taaaatgcga 240  
gacaaaatta cacaaaggga taaccttcgc ctagctatatt ttacgctcct tcataaacat 300  
accaatgt 308

<210> 3722  
<211> 210  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-B11  
  
<400> 3722

cccacgcgac cggtacagca taatggaaga aagagaaagg aaaaaactga gtatcaggaa 60  
gaaaagaggg agtagatgag gaaagaaaga tcaaggaagt aagagtaaga gaaggagtaa 120  
tgtgaatgaa agcaggaaag tatttgaaga agagagtgt aagcgcgtac cttttgcata 180  
atgtcccagc gagtgaaga ggaagcaaaa 210

<210> 3723  
<211> 351  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-B4

<400> 3723

gtcgaccgac ccgtccggta tctttgagtg gagctcctag aagaatactt gtttggttct 60  
ttgcagactt gagagtggag gacaatgaag ctttgatcaa agctgcacag aatgggtgctg 120  
ttcccggggg tctagtatta cctctagtgg cgctgcataa agaaattcca aggagtgtta 180  
tcgttgagtt gaagacagaa ctgcaaagac gcggctctga cctgtgcgtc ttgcccaggt 240  
tttgtacgga ctccatcctt gagatatgcc ataaatacgg aatagaagct atctactaca 300  
actatgccga gctcccagac caaatgcagc ttcagaatga tatgattact g 351

<210> 3724  
<211> 371  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-B5

<400> 3724

gggtcgaccc acgcatccga tacgacgaaa atgccaagga aaaaaagtgc aacaaaaaaa 60  
aaacgttgat attgcaaaag tttcttttcg gatattacag tctctacatt ttactcagcg 120  
agactctaca aggttgacct aaaaaaatat tatattctag tttcccaagc ataggtatac 180  
tactcgtcaa tgactacgta ttcaaatgct ttttccaaat ttctgtaaat aactagcaag 240  
cgtttgctgc aaacgatcgg acaagttact ttgaataacg tttttcaacg ttggattatt 300  
tgccacaact tcggtaacgt tattgatgag caccttgata gaaagatgag ataatacaaa 360  
gcgctttttc a 371

<210> 3725  
 <211> 472  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-C10

<400> 3725

tccgaaattc acgggtccac ccacgcgtcc gcagacgcgt gggcggacgc gtggggatag 60  
 actcatttcc aaagcaaggt caaaaatggg tgggtgcttat atgattttgg aatttgcagc 120  
 ctttatatac tgggcgcctt ggatttactg tattccgtta tcgactgcgc agcatcaaaa 180  
 gagaagattg ttgccacggt ggaattaaaa aatagaaaaa tgcgactcta gaaatttggc 240  
 gcctctaata aatcctaaat aaatgggatt gtttagcttt ggagaaaagc tgtttttcgt 300  
 ttttttgtgc acgaagagag atgagtcgct ctatggagat atcaatcaaa gcacgcgagc 360  
 cggagagcac attacaaagt acacgaaatg aagaattcaa ccatggcaac aatttttacg 420  
 aagaaattga aaaactaact tctctggggg acaacgcac agatatacaa aa 472

<210> 3726  
 <211> 474  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-C11

<400> 3726

gtagccgtcc gaaattccaa ggtccacca cgcgtccgaa caacagtgcc aacaagtatg 60  
 taaacagtat gcatactatc agagtccagt ctgcacttcc gtaaccacac agagcccata 120  
 ctggacccaa tgctcgaaga ctgtgcaaac ctttgtccca agccagtgca gtacttatac 180  
 ccaatctcct acatggacct attgcagcac ctacaccacc actagcgtac catctcaatg 240  
 cagcaaggcc gtgactacct atactcaaac ctgctgtgct tatgcccac aaacttccta 300  
 tgcagtcagt accgagcaat atgttcagga aactgtatct gctcaatata cttcttacta 360  
 cggcgaatca tcctccagct attattaccg agcagctgct cctcagagat ggtatgagga 420  
 acaatgcacc tcatactgct gggttccagt acaggactat gaaacttaac aatg 474



<210> 3727  
<211> 395  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-C12

<400> 3727

ggtccacca cgcgtccgaa agatattttt tgtggtgaat tgggaagcga gggaaatggaa 60  
tgacgagaga tgaaacaatg attaggcgcc aatcctcttc atgtctgcat gcttggtggt 120  
ttcacacttg ttggctatca aagccgcgaa tagatagttt caaatacaaa acatcgcca 180  
agtgttttcc ttcttctctc gagcgctgcg ctttgaccg tttcaagact cgggtcagta 240  
gaaggaatgc gcaggtcgtg cgttggtatgt ttactaccga ccatactcag ccactgtact 300  
tggcacaatc ccttggtggct tttacgcctt ctgcatcctt aatacagttt actagtggtc 360  
tggggtggtt ggcagtactt gccttggtta tcata 395

<210> 3728  
<211> 279  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-005-Q1-E1-C4

<400> 3728

cgcttgcggt ancgggtccga cattcacggg gccaccacg cgtccgcaga cgcgtggggt 60  
tttgctaaca cggttggttga gttgtagaaa gcatttgata aatttccgc gaggaatcct 120  
acttgggacg tgtcctcaa tgctgcagag agctattcgg tatgtctgtt tattgcttgt 180  
tttcataaga gagagagagt tggacatcga ataaagaaaa aaccacacaa agtggaaacaa 240  
cgtaaaaaaa aaacaaccag aaaaaacaga aaccacaca 279

<210> 3729  
<211> 308  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D11

<400> 3729

tccgaaattc aagggtccac ccacgcgtcc gcaaacgcgt ccgcccacgc gtccgctgag 60  
 ataacaaagt ggcaggatcg actggcttgt gcgtttctcc atccacaaag catagtttgc 120  
 cagttgtatt gttttgatgg tttctgttga ttattccctt ttttttcaca aactttgtcc 180  
 agtacttgtc caatagtcac atatttgga taatacaacg ataaagggtg ttgtagtgat 240  
 ctcgtagtgg ctaagttagc agcaacatgg tcacttatgg tgacatacaa ataaactcta 300  
 tcttgcac 308

<210> 3730  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D2

<400> 3730  
 ttcacgggtc caccacgcg tccgcaatct tttcgagatt ggagtcccg agagtcactc 60  
 gatactgtta ctctgctgt atctagaccg attgctgttc atggaccaa atattcacct 120  
 caaacgacga caagagaagc tgggtcggat atccgagcgg aaggtgaact ttggcaacgg 180  
 aaaggacatt tgggtgaagt ttggcgacga cgatttgctg ctatactacc acattctggt 240  
 tttggaaatg tattgtgtat tttcgagatg gaaaagaacc agactttgca gcctaccaag 300  
 tcaaaaatgc ttgctttgaa aaatactcaa gtgaagagcg aaccgaatac 350

<210> 3731  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D4

<400> 3731  
 cacgcgtccg aaactttctg cgggtgattc tggtgagaag ttgaactccg tttttgcaa 60  
 aattgaagga ctggagtctt ggtctgtcga ggccaaggta ttgatgatga atattatgaa 120  
 aaggtggatt gactcaaggg agaataatg ggcgacactc gatgccttgc aaaactctcg 180  
 agccagaatt tcagagttgg aagccgaagt gaaacaactt tgtcatcaaa ttaagctggt 240  
 ggagttggaa aatgatcgtc gactaactga acaatccttg aaacatatga atcagagttt 300

tgtaaatgaa gaaaatgtta gtgacgtttg tatgacgaca agtgattcat ccaacgttgt 360  
tcaagacgac gacgaacatc cagatacgat catccctgca actcga 406

<210> 3732  
<211> 346  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-D5  
  
<400> 3732

ccacgcgtcc gcagacgcgt gggcggacgc gtgggcggac gcgtgggttg agatcactaa 60  
agacggtgtg ggcagaacac ttgagcgatg agtgtaaacy cgccttttac aaaaattggt 120  
acaagagcaa gaagaaggct ttcacgaaat acgcaaaggc caagtatcaa aaaggctggag 180  
aaagcatcaa aagagacttg gagaagatta agaaatactg taccgttatt cgtgttcttg 240  
cgcatactca aatgagaaaa ttgaacattg gacaaaagaa agcccacatc gcagaaatac 300  
aagtgaacgg tggaaacgacc gcagaaaagg tcgactttgc tacggg 346

<210> 3733  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-005-Q1-E1-D6  
  
<400> 3733

gggtcgaccc acgcatccgc ccacgcgtcc gccacgcgt ccgccacgc gtccgggcaa 60  
ctcaactagg ttcttttaag aatgagattg ttccagtgc actgagtgc ggcaccgttt 120  
ttgatgccga tgaagaagta cagagattca aacaagtga tcgttttaga gaattgaaga 180  
cggtatttaa gaaacaaaat ggaacagtaa ctgctggaaa ctcgagcaag ttgagcgatg 240  
gagctgctgc attagtgttg gcaagtggcc aagcagttcg agaatatggt ttgaagccac 300  
ttgcgaagat tataagttat gcagatggag aacaagctcc tattcgattt ccaacaactc 360  
ctgcaaaggc agtcaagtta gcactagaaa gagccaaact tgccgtcaaa gatgt 415

<210> 3734  
<211> 79  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-D7

<400> 3734

ttccccgggtc caccacgcg tccgaattgt cttctgggtca ctataaagag ttgagtattt 60  
catgttcaag tccctattc 79

<210> 3735

<211> 278

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-E3

<400> 3735

tagccgtccg aaattcacgg gtccaccac gcgtccgcc acgcgtccgc ccacgcgtcc 60  
gagccaattt ggtgcagatc actttgggtgc agtattgcc a gtgtcagtag aagaaacata 120  
acaagtccaa gctctttgga ctctattttg atttctatct agactggcaa tgtaaataga 180  
actgagagtg tcaagttacc cctttttgtc ggtagagagt gacaatgggg gttgcgttac 240  
caagacggca agtctacgca gtcgtcgaca caagaaaa 278

<210> 3736

<211> 370

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-E4

<400> 3736

tagcgggtccg taattcacgg gtccaccac gcgtccgcac acgcgtccgc ccacgcgtcc 60  
gcccacgcgt ccgccacgc gtccggtata ttactttgga aagcgacctg aagattggaa 120  
gtattgcaga cttgttgga tggtattcat agttgccggt gaatgtattc gaaagtggg 180  
aaccctaactt ttgttgggtca atcctatttc ttgtatcctc tttgctgttc ttagttggaa 240  
gttttttcgc gatcgaatcc gatgggaaga agagacactc gttggccttt atgggtgttca 300  
gtttcaggaa aagtatcgaa acaaagtttg gagtgggaatt ccttttattt aaatacgacc 360  
tgccgattgg 370

<210> 3737  
 <211> 449  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-005-Q1-E1-E8  
  
 <400> 3737

```

tccgaaattc ncgggtccac ccacgcgtcc gcaggtactc gaggagaaag gagacccaaa   60
ttaaggtgag agaatggacg ataaggaact aggcaaaagg atatggtatc tgcggtagaa  120
catatgaaag aagcagcacc gactgttttag caaaaacaca gcactctgca gaaaagagaa  180
aatgtaaagt atagagtgtg cggcctgcca aatagtagag aagaaatcga tgaaagtgaa  240
agcgagtaaa agatgaggta tagagaatgg cggtcctaac agtaaggatc caaaggtagc  300
gaagtaaata gacgtttgaa aggcgtccag tatgaaagga gaaacgagtg tagcactgtc  360
tagtcgtcca actcagcgaa acagcaataa ctgtgaaaat gcagtaaact agcagtagga  420
cgggaaagac ccataattct tgactagat                                     449
  
```

<210> 3738  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-005-Q1-E1-E9  
  
 <400> 3738

```

gcattccagta tgaaaggaga aacgagtgtg gcactgtcta gtcgtccaac tcagcgaaac   60
aataactgtg aaaatgcagt aaactagcag taggacggaa agaccccata attcttgact  120
agataggttt agggaggaga gagaatcatg aagtagagga ggtggggtaa gagatgaaag  180
accactgcat gaggataagg aatctaactg agtaaggaaa ataagcttaa gctagtttgg  240
ctggggaagt aaagcctaag aaagagtaaa ttaggcaagc aaaggcatga gagaagtata  300
atagcagaag catgcttgaa gaaaaagaaa gagatttcag aaagggaaga aaagtcagct  360
atagagaaca ggtgaaggag aactcaaaaa gaggagagca ccgaacgatc gaagaagaaa  420
ctttgggggt aacacgttaa agtgggggta aa                                     452
  
```

<210> 3739  
<211> 480  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F12

<400> 3739

tagccgtccg agattccagg gtccaccac gcgtccgcac tctgggaagg ttgttgttga 60  
acgtgaaact ggtcgttccc gtggttttgg tttcgtatcc tatgcagaag gttcctccgt 120  
agacgaatgc attgccgcac tggatggcaa ggatatgcaa ggacgcacta ttcgtgtgaa 180  
caaggcaatg tctcgtgaac aacgcgagag tggaggagac tttcgtcgcg gtggtcgtgg 240  
acgatacggg ggttttcgtt ccggtcctta tgagagacgt gaacgtgact ctgatcgtag 300  
aagagatcat gacaggagag ataacggcca tagtagccga ggtcgcagtg gaggtttccg 360  
ccgtcgtgaa gactttgatt gagagtattt gtgaagtctt ttattgttgg ttgcctatac 420  
tagaaactag ctatacgcat ttgtttccag taaagttttg gataaattgc tcattcaaaa 480

<210> 3740  
<211> 360  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F2

<400> 3740

ggtcgcaccc acgctccga attgttgtgg ctatgtacgg ttacggttgt cgttgcgtgt 60  
gaacgcgaac aacaagtgga gcgacttgtg aaaagaaacc atttgtctcg agaagaagcc 120  
ttgcaacgaa tcgattccca aatgccttta caagaaaaag tacgtttggc aaatttcgtg 180  
gtggacaact ccggaaactt ggcggtatta gagaacaag tgaatgaact ttggcaacaa 240  
ttagagcaca ttcgtattcg aagattgcgt cgattcaagt tgtttgatg ggctgggtta 300  
ggtgcccttg tggttattat ttccatggga ctgttcagga aataggagaa aaagaaaata 360

<210> 3741  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F3

<400> 3741

ccacgcgtcc ggaggtttct cgtagcttta ttgaatcgaa acaaaaagct cgtttacata 60

gtgaagctaa tagaaactgt cataaagtgg ctgtaactgg aagctggaga agagaagaga 120

ttccatcgaa ccacagtgtg ttcgatacag cttacgaaag tatagtcagt aatctacgag 180

atgaagctag cgccgaccaa agtgaagaat tcaagaggct tttaaagtcc atagagacat 240

ttgaagaagg agaagtagtt tcctcagtct tgccaaccga tgagaaacag tttatttgcc 300

ccctttcaca aaagctacta gttgaacctg tgaaaaataa ggagtgtctt catacgtatt 360

cgaaagaagc attagtgaca tatttgaaaa acgacaaaaa ctcaaaaaac aaactcgcaa 420

gct 423

<210> 3742

<211> 351

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F5

<400> 3742

ggtccacca cgcacccgca gacgcgtggg cggacgcgtg ggcggacgcg tgggcgacta 60

gactcgtgga ttggaaggag tagcagtga tttccaaag gtggcaactc ttctccagaa 120

gggggttcat ctctaaatt gggtagcagt ctttcgaaac taagcaaaag tcctcgcgct 180

caagaagttt ggagtaaaac agtgcaccc tgggggcgtt cttactcagg aaaaaaacgt 240

tatgacaccg tggagaagga cacagagaag gaaccaagta tatttgagat acatgatctg 300

tccaagaaac agagcggcag ccagtaagaa gagagtttgt gagttttcaa t 351

<210> 3743

<211> 420

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-F6

<400> 3743

gggtcgaccc acgcatccgg cataaaattg ccgaaagtat cccagtggaa gaaggtggtg 60

aggaggtcga gtcggtacgt gaggaagaaa ccaacgtgga aaataatgaa caagatacaa 120

cgaagcaaga agaagaagaa attgtttcca agtttggtcg ttccaaggca gtacctgggt 180  
 cttcgaaagc atcgagtaag ggtagcaaga tgggcgaaaa gggaggtaaa aagagtagga 240  
 aaactgctac aaagaaatga agtactcgat cttccatgca ctcttgccaa tgtcatttgt 300  
 tgcattcatt ggaacacttc atttggcaag tcataaaacg cattttttca ctccaatttg 360  
 gattgactcc tccccgtcct tccatggaac caaataaatt tgttgcgatt attgtcggtc 420

<210> 3744  
 <211> 384  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-G10

<400> 3744

gccaccacg cgtccgcaca cgcgaccggg agcagtgatt gttgccatgg ttttgtttga 60  
 catgatttcg aagctgatag aaaaagctcg agcaccaaca gagcaagaag tggagcagga 120  
 agcaaaagac aggatctatc gacgctatga acaaagttag ctggtgcatg atatgtggag 180  
 ttctcctgtg aaaccaccaa actggtggaa gtcggatgcc tttcaagaaa attataagca 240  
 attgtgtcac agacataagc agcgctcaa gaccctgca gagcgaacgc tagaagatat 300  
 ggaagaaatg taaagaccta gtagcctttg gtaccgcaag ggagtagtaa caatgggtgtt 360  
 gcaaccagtt ggagtttctt tggt 384

<210> 3745  
 <211> 430  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-G12

<400> 3745

tatgcacagg atagacaatt tcatttgga tgtattgtca tccattttta ggcttgagag 60  
 ttttcgtct ttgttatgtt ttttggtttt gtatatgttt cctgtatttt ccaccttggt 120  
 tacttttcta ctctctcgtc cattatctgt gaacagctta tggttcttat tattgatgat 180  
 ccatttttgg agttggcagc atgcagataa tcgatggaaa agagtgtttt cgcggtatct 240  
 tataccgctt cactttctag ttttcggatt ttcacatttg actgtgatag attaactaac 300



ctcaatggaa aggattctct tggctttctt gttgtgtatc gttcgcagcg gagatatact 360  
gacaagagaa gttctccttg tgttgtgtat acaatatata ttcttagagt ggatacagag 420  
tcagcctctg 430

<210> 3746  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-005-Q1-E1-G5  
<400> 3746

cggggtccac cacgcgtccg cattgattgc tcgacgaggc gcagaatggt cttgtcgttt 60  
aaacttggtg actgttgata accctgtata agagcagttc aagttgtgca tcttttgata 120  
agaccatagt gaatataacg gataatattc ttttgctcaa gaaaagcaac ttggaggagt 180  
tgccgataag agtgtatgga ggacgcaagg caaaaccttg tgtttaacaa cttgtatatg 240  
gaatacgact agggagaaag gagggagtta tcttcccaca aaacactaga ggcttctggt 300  
acgttacgga ggcaagaagg acgaaggcgt tccaaagtgt tggaacccca tttgtg 356

<210> 3747  
<211> 466  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-005-Q1-E1-G6  
<400> 3747

gggtccaccc acgcgtccgc acacgcgtcc gccctcgtcc ctgcgtcgtct cctccaacga 60  
gtacccaaac ataaaataga aaatggcaac ttactatcc aaaaaaagaa gagcagtagc 120  
cgacggtggt ttcaaagcag aacttaacga gtttctgatg cgagaattgt cggaagaggg 180  
atactctggt gtagaagtga aaccacgcc gttgcgaacg gaaatcgtga tccgagctac 240  
cagaacacaa aacgtgttgg gagaaaaagg tcgaaggatt agagaactca ctgcgttggt 300  
acagaagcga ttccgttttc ctgaaggaac agtggaactt tatgcggaaa aggttgcgga 360  
tagaggttta tgtgccattg cgcaagcaca aagtttgagg tacaagttgt tgggtggatt 420  
ggctgtgcgt agagcttggt agggcgtcct acgatttggt atggaa 466

<210> 3748  
 <211> 226  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-005-Q1-E1-G7  
  
 <400> 3748  
  
 ccttgtagtg gccacaggac tggagattta tgttgctatt cagacattgc tagatacttt 60  
 gaaatacaag tctagcaagt ttcctatcgg tagcatatgt tgatgaatag catcgtttgg 120  
 tattcttggt tggttggtaa atttcttctg ggtggactgt tgcaatatgt atatggaaat 180  
 aaaaatattg tcaaaataaa tacttttgtc tttggagttg agatac 226

<210> 3749  
 <211> 311  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-005-Q1-E1-H4  
  
 <400> 3749  
  
 gcgtccgcac acgcgtccgc ccacgcgtcc gctggaatta tgttgctcga aacttttgtg 60  
 aagctgattg cttggtatga taatgagtgg ggctactcca atcgtgttgt agatttggtg 120  
 caccatatgg cgaaagttga tgggtgtagct taactctgct tttcttgttg ttttttcgtg 180  
 tattgtttgt tttgtgaaag agatgaaatg tgttgctctt tccataaaaa gttgtgtgcg 240  
 ctgtgaaaaa aaaaaaaaaa aaaaaaaaaa gacaaaaaaa aaaaaaaaaa aaaaacaaac 300  
 aacagacagg g 311

<210> 3750  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-005-Q1-E1-H5  
  
 <400> 3750  
  
 ggggccaccc acgcgtccga aaggaagtaa aaggagggaa tgaagggaag ttatggcaaa 60  
 aacacgtgcc agcagcagcg gtaaaacgtg tgtagcaagc gtagagcaga agaactgggt 120

gtaaagggtcg agtagtagag taagtgtaaa agggaaagga aaggagagaa agaggaaagg 180  
 gatgaaatgc agagatctct agagaaaggc aagaaagaaa agaaaggaag acacagtaaa 240  
 tgaggcgaga aagcatagga agtgaaacgg attaggaacc cgtgtagtct atgcagtaaa 300  
 agaaagaatg agtaagaaaa aaggagtc ttccaccagg ggagtaaagg cgcaagaaag 360  
 aaaccaaagc aattgacggg aatcggaaaa acgggtggat cacgtaaatt aatccgatat 420  
 aaaccgagaa ccttacctct 440

<210> 3751  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-005-Q1-E1-H6

<400> 3751  
 ccgggtccac ccacgcgtcc ggacaagcgt cgtgacagaa gcaccaccga ctgtttacca 60  
 caaacgcagc actctgcaca ttagacaaaa tgtaaagtgg acaatgtgcg gcctgcaaaa 120  
 tcgtcaagac cagctccatc acagtgaag ctagtaaaag atcaggtata tagaatggcg 180  
 gtcacaactg tcaggatcca gaggtagcca cctacacaga cgtctgatag gcgtccagta 240  
 cgaaatgaga gactactgta gcatagtcta gtcattgata taatcgagac accagtacac 300  
 tgtgaaaacg caatgaactg gcactaggac ggaatgaccc cacacatctt gactataaaa 360

<210> 3752  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-A10

<400> 3752  
 gtatgacatg atttcgaagc tgaaagaaaa agctcgagca ccagcatagc atgaactgga 60  
 gcaggaatca aaagacagga tctatcgacg ctatgaccaa agtgagctgg tgcaatatat 120  
 gtggagtctt cctgtgaaac caccaacctg gtggaagtcg gatgcctttc atgaaaatta 180  
 taagcatttg tgtcacagac atagagcagc gcctcaagac ccactgcata gcgaactctc 240  
 taagatatgg cagaaatgta aagactttac agcctttggt atcgcacggg agtactaaca 300

atggtgttgc aaccagttgg agtttccttg atctatgagc acttattata aacaatttat 360  
tg 362

<210> 3753  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-006-Q1-E1-A2  
  
<400> 3753

ccggtccgag attcacgggt cgcccgacgc gtccgccaac gcatccggga gacccaaatt 60  
aaggtgagag aatggacgat aaggaactag gcaaaaggat atggtatctg cggtagaaca 120  
tatgaaagaa gcagcaccga ctgttttagca aaaacacagc actctgcaga aaagagaaaa 180  
tgtaaagtat agagtgtgcg gcctgccaaa tagtagagaa gaaatcgatg aaagtgaag 240  
cgagtaaaag atgaggtata gagaatggcg gtcctaacgg taaggatcca aaggtagcga 300  
agtaaataga cgtttgaaag gcgtccagta tgaaaggaga aacgagtgtgta acactgtcta 360  
gtcgtcaaac tcagcgaaac agcaataact gtgaaatgc agtaaact 408

<210> 3754  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-A4  
  
<400> 3754

gggtcgacgc acggtccgg attgaaaggc gtccagtatg aaaggagaaa ggagacccaa 60  
attaaggtga gagaatggac gataaggaac taggcaaaag gatatggtat ctgcggtaga 120  
acatatgaaa gaagcagcac cgactgttta gcaaaaacac agcactctgc agaaaagaga 180  
aaatgtaaag tatagagtgt gcggcctgcc aaatagtaga gaagaaatcg atgaaagtga 240  
aagcgagtaa aagatgaggt atagagaatg gcggtcctaa cagtaaggat ccaaggtag 300  
cgaagtaaat agacgtttga aaggcgtcca gtatgaaagg agaaacgagt gtagcactgt 360  
ctagtcgtcn aactcagcga aacagcaata actgtgaaaa tgc 403

<210> 3755  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-A5

<400> 3755

```

ttcgcggggc caccacgcg tccggagagg aacaatatct gcttggccag tctcaaagaa 60
ccttcaataa gtatccaaat tataagaaac ttataacgag tagcaacata acactgtgta 120
ttctcctgtg ctttttccta gtagtatttc gtaacactgc gggctttgtc tcacctgtct 180
atagaaaaaa ctctggtaca agtgctgcct tgcttctcga ctctccatct tttcaaatg 240
gcaccggtat acctaagaaa tacggctgtg attattgtga acaagccgca agctctgtgc 300
cgctgacttg gagggtaagc ctctagggac aatacgctta gtgacagttt cagttgcaag 360
gagtgagttg cagagctgac aatacctttg tgttattagt gcacgatcca gatgctatta 420
gtgttactgg attggatt 438

```

<210> 3756  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-A6

<400> 3756

```

taccggtccg tgattcccgg ggccacccac gcgtccgcat ttgggcaacc gtcaagtgga 60
gcaacgactg gttgggtggt ggtgaaggag cacaagtgtt gcattgttgt tcaatactgt 120
ttgtaatagt agcagtgaga gtatcatgac gagtagtaac agtggtagtg ctcatcaaca 180
agccaaggat tgggtggagt ccattagcaa aaatgagtgg acaaagcctg cagctgctgt 240
ggcaggaact ttggcctcct tgggactgat aagaatgtat tctaattggac ctgtatataa 300
aaattccgtc aacttgaagg gcanagtagt tgtagtgaca ggtgccaata caggcat 357

```

<210> 3757  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-A7

<400> 3757

ggggccaccc acgcgtccgg aaagaaaaga gaatatccaa tatagtatTT atgggaatgg 60  
gagaacctct tcataatatc gacaacgtcc taagggtat tgagatactt ttggatgaac 120  
aaggccttca tctatcccat aacaaagtaa cagtttcaac ttcaggtttg gtacctgaaa 180  
tggagcgact tgcaaaagaa accaatgtca acatcgact gtcattgaat gcgacaaccg 240  
atcaagttcg cgaccagttg atgccgatca accgcaaata tcccatccaa gttctcttaa 300  
atacagcgag acgaatttac accaacgaac gaagcggta aaaacttttc gtcgaatatg 360  
tcatgttga cggtgtgaat gatagtatcg aggatgcaa acgactgcat atgttattgg 420  
ctggg 425

<210> 3758

<211> 496

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-006-Q1-E1-A8

<400> 3758

taccggtccg agattcccgg ggccacccac gcgtccgaac tattccattg tgaatatgtt 60  
ggaccttttc agttattgca agattccgcc agcagtgaat cagattgaaa tgcacccgta 120  
ttatgcaaga acagatctgc tcgaattttg taagagtcgt ggagttcatg tgactgctta 180  
ttctctctt gggagcggta aacatgggtc gcttcaagat gagacagttg caaagattgc 240  
caagaaacat ggaaggacac ctgctcaggt attgatccga tgggtgtctac aacgtgggtg 300  
ttccgttatt ccaaagagcg taaagaaaga acgtatcaag gaaaactttg atgttttatt 360  
cgaattgagt ccacaggata tgaaggaatt gnnagcctt agatagaaca taatcctcaa 420  
tcatcaaaag gaatattggg gttccaatat ccagccttga aagattcttt gccgtacaat 480  
aaacaaattt cttgtt 496

<210> 3759

<211> 468

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-006-Q1-E1-B2

<400> 3759

cgggtccgtaa ttcacgggtg cccgcacgcg tccgcacacg catccgccc cgcgtccggc 60  
agcatgatga agagcgctat gaagttcttt gtatttagca ttattttggc aaatgttggt 120  
cttactattc aagcagcaac ggttttggag actttggagt cactgaaata tacagagtat 180  
cttgacatgg taaaggctgc aggcctggac tcgaagttca acgactctgc tgttacatgg 240  
actgtttttg cagcaaacia tactggagtc aatgccacct tggcaccaaa gcacttggtt 300  
atttctaata tcacatctaa tgcgacggag agcaaagaca ttgtggaata tacttttgta 360  
caacatactc ttttgtcaga tgatattaag acaggaacia ctatccttac cggcgtanac 420  
ggaatgaatt tgactgtggt taagaatacg acacgaatat ttgtaat 468

<210> 3760

<211> 450

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-B3

<400> 3760

ttcacgggtc gcccgcacg tccgagacia aaattttatg gaaaagtttc aaaaactgga 60  
gaagatcggg gaaggcactt atggagtgtg atacaaagca aaagacaaat atacaggaga 120  
actcgttgca ctgaagaaga taaggctgga acacgaggaa gaaggagtac cttctacagc 180  
aattcgcgaa atttccatat tgaaggaatt gcaacatcca aacattgtga ggtaagcatg 240  
gagtgatgag agttctttga gtatattcgt tggttcagact tcgagatgtg atccacctgg 300  
actccaaact atatctggtg ttcgagtatc tggaacaaga tttgaaacat tttatggata 360  
gtttaccccc tggaaagcta gaccctcttc taatcaaac ttatttgtat cagcttctga 420  
atggtttggc gtattgtcac gcaaaccgta 450

<210> 3761

<211> 354

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-B4

<400> 3761

ggtcgaccga cccgtccgcg gacgcatggg cggacgcgtg gggcgttgga tcccaatata 60  
ctcgtaccag cgtgggtatcg agacaatgtg caaaataactt tgccgttggt atcccttttg 120  
ttcgaggtat agtgagatag ttgttgggaa atggtgcaac gagttgaaga ctggaacata 180  
tatatatagc gtttgggaaca agaacatgtg gtagatatta cggaagagga tttcgatagc 240  
catatagatg atagcattca ggtangtgta tggatagagt tacttgggat atactttgtt 300  
tttaaagata gcgatagcac aagatacaag aactagaaaa atggaaacaa aaat 354

<210> 3762  
<211> 253  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-B6

<400> 3762

gaaataaagc acgaaacagg ttttatttcg tcgcactgaa gaactcacia actcagtgtg 60  
gagaatccaa tttgtttcca tcacacgaaa atttcagact ctccaaactc tgcattggga 120  
tcgaagccac caaaggcagg ctgctcatta aaagaaggcc atgatggata ggatggatat 180  
tgaggaaatt ccacatagga tgtgtaagaa ggagcgtaaa aatagctagg cgaaggatat 240  
ccctttgagt aat 253

<210> 3763  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-B7

<400> 3763

gtaccgatcc gagattcccg gggccacca cgcgtccgcc aacgcgtccg gtgaggtgga 60  
aaaattcttt gtgttggtaa atggaccctc gttattatcc tgtcaatact gttccagaac 120  
caagtgtccc tactgaaagt tcctcggaac cttttagcaa cacttatcat cccattcata 180



accaacaacaaa cctacagtat aacaggagac cacctccttt gaacactaat ttcttggata 240  
 caaaatccag taatctgcat caaaacgtcg ctgtacatag ccctactcca ggcttcaacg 300  
 actactacac aagtcaacac agcaacgagg agaatgagag aaccaaagaa ttggttcgat 360  
 ggaaggacga gttgttctct ggtctatttg taggcttaac gtttctttgt acttgatac 420  
 ttgtgtggag tgcttgggtg acagctac 448

<210> 3764  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-B8  
  
 <400> 3764

taccgatccg taaattccgg gtccaccac gcgtccgaac tgctattggg ttggttatct 60  
 cgtttttcca gttttgctac ggtctgttg gtatcttttt caagtggcaa caaaagttgt 120  
 ggtatattga agatgctttc aatctatttt tctgggcttg gtggttggtt ggtgctatcg 180  
 ttgctaccgc tgcaagacca tcgactggaa tgctcaactt gcacaacaac aggacagaag 240  
 tgaatgccgt ggaggctttg ttgtggggaa atatgtgtct ctatttcttc aatatattct 300  
 tgggtttctt tatctattgg gttggtgaaa ctggttggtt ggatcctact gttgcagact 360  
 atcgcgtatt gacttcattn ggaaaaggac aactgggaaa ggaagctcag ttgcatcagg 420  
 atantcccta agaagaagca atgttggttg gttg 454

<210> 3765  
 <211> 469  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-B9  
  
 <400> 3765

cctgcccgtc caggtccgaa attcncgggg ccaccacgc gtccgaattg gctaagcaag 60  
 cagagaaaaa gttacaactt gccaatgtg tgggaaacaa acctcccaaa gtcagagaaa 120  
 ccagtacagt agcagttgat gatttgaagc cttggaagag agaagacgac gatgatccaa 180

ctttatcaga aataggtcaa aagaatttgc agcagcagca acagaatgct gtaaataata 240  
tgaataatag aaaggataac aagaacaaga cagtagatat gaccaaagag ttttttaggg 300  
agcctccaag acgtggaaga ggaggaaata gtcgcggtat tggaggggaat aggagaggag 360  
gaagaggaaa aaccggtcct ccaaatactt ccaataataa ctatcgacgt gaagaaggaa 420  
tagtgggaaga agcaagaaat gatcatagac gagctgcttc tcgatcgag 469

<210> 3766  
<211> 483  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-006-Q1-E1-C11  
<400> 3766

cctgccggtg caggtccgaa attccccggg ccaccacgc gtccgcagac gcgtgggaaa 60  
agaattggat ataataacat gatatactcc gaagatgaag tagaacgtat tggccgtggt 120  
gcttttcaag tggcacgtca gcgtaaaggt cgactatggt ctgtggacaa gtctaattgtg 180  
ttagatgtca gcccaattatg gcgagaagta atcgtttcct tgtcaaaaga atatcctgat 240  
gtggaactga ctcatatgta cgtggataat gcggcaatgc aattgattcg caatcctcgt 300  
cagtttgata ctattgttac tggaaatctg tttggagata tattatctga tgaagcttct 360  
atgttggttg gttcttttagg aatgttacca tctgcttctt taggagaagg caatcgteca 420  
ggagtatttg aacctgttca tgggttcagct cctgatattg ctggtcagga caaagccaat 480  
cca 483

<210> 3767  
<211> 321  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-006-Q1-E1-C2  
<400> 3767

ttcacgggtg cccccacgcg tccgaaattt tcggcaaatt gtcagtacat gcccaactact 60  
tgtgtcctat aggttcggtg gggctagtta tgataatagc tttgtactt tttgtgtttc 120  
taaggagctt ttttgggttc tgagaaacgt tgctgttgct tgaattcgcc tctgggtctta 180

agaattaact gtatcgtcag actacttatt gacactggca gtaatttgac tagtcctgcg 240  
 ttgggtatga tctcggtatc tttagcaagt cctttatcta cagtgttgaa tattttgcaa 300  
 aataaaaactt ccgtttcttc g 321

<210> 3768  
 <211> 442  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-C3  
 <400> 3768

ccggtccgta gttcacgggt cgcccgacgc gtccgccagt cgtggtggtg gtggtcattt 60  
 ttcccatcca aaaaaagatg atggacagca agttattggc catcgtaaa ctttgtgcta 120  
 ccaacgatat cgaagccaac tttagaaatt gtgcaagtct tattcatcaa gctgttggtc 180  
 aaggtgctcg tttcgtgagt cttcccgagt gtttcgagta tataggcgcc acacccaaag 240  
 atgcgctttc catagctcaa cctttggacg gccctttatt ttctcgctat agagaattgg 300  
 ctgtgaaaga acaagtttgg ctgtcattag caggtttcca cgaacgaggg ccgatgacg 360  
 ctcacatcta taattcgagc gtcgtagtgg atcctagagg gtccatagtt gctgtttatc 420  
 gcaagttgca cttgtttgat gt 442

<210> 3769  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-C6  
 <400> 3769

ttcgcggggc caccacgcg tccgaaaact gcaagtccta taaggcgac aatgcaggaa 60  
 ctggaccagc aaaaagttga tacagattca actagtcttg ccgaagtaca actatttcca 120  
 gccatagaag aaaccaaatt tccaaaggct attcgaccaa aaggaaatga gacttcacca 180  
 caaagcgaag catatgctgt acaactatct cgaagtatga gaaaagcttt actaacttca 240  
 ccattatatg cgaatgatat ttccaggaaa gtgtctaagc gacagatata tacttacagt 300  
 gacttgatac tcaacaatac tgaaaacgca aaacctcgcc tgtttgagga atcaacttgg 360

ttgaaaacca aagtacttca aacttccttc ntcctagtca acggaataat aatacaacta 420  
gagaaagggtc aaagaaaaga aaaactttgt cttcaaccaa tata 464

<210> 3770  
<211> 338  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-006-Q1-E1-C8  
  
<400> 3770

ggggccaccc acgcgtccgg accgcccttt tttttttttt ttctactctt cttctacttc 60  
tcctgcttat tcctagcaca cttccagaac ttgacgggca gtgtgtacaa aatccgttca 120  
cgctttcacc gaagcttttt cttcctcgat tacttgggat tcctccttcc ttcacgctcc 180  
ttcctcgtgc ttctcttgtt tggacctttt ctacgttcca atgtggcttt cctcctctca 240  
gattcccgtt ttacttcct ttatggtttt tactctaacc atttcttaca ttcttctgtg 300  
ctttcatggt cttccactct ttcacacctc tttacgac 338

<210> 3771  
<211> 463  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-006-Q1-E1-C9  
  
<400> 3771

cctgccggtc caggtccgaa attcccgggt ccaccacgc gtccgcaggc tttagaagag 60  
tctcgctttg ccgatgctgc gaatgaaaag caacgtttgg aagaaaaaca aagagctgct 120  
agaaagatga gagaagagcg aggggaagaa tattctccat tatggtttga ctggaaatat 180  
gaccaagtca ccgaaaagta cgattggaag ttaatggcaa atattatatt catcgcaaag 240  
aaaagaaatg ggacatatgt ccggatttgt tctgaagagc tgcggattag aattgagcaa 300  
ttctgtcgag caagtccctc gaaagatagc aactcgtgtc gtatgcgttt ttcatttccg 360  
ttgcttttgt ggtttgtctg tataaagcgt ttgcattgtt cccatcaaaa aaaaaaaaaa 420  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaggcg cgg 463

<210> 3772  
 <211> 484  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-D10  
  
 <400> 3772  
  
 gcctgccggt acaggtccga aattcccggg tccaccacg cgtccgtgat tgttggtgtt 60  
 ggtgaggtgg gaagcaagaa gagatgagta gaggaagtag tgccggttat gatcgacata 120  
 ttactatttt ctctccagag ggacgactat atcaagtaga atatgccttt aaggctgtaa 180  
 agtcagtagg aattaccacc gttgctgtaa aggggctgga tgcagtttgt ggagtaactc 240  
 aaaagaaggt aaccagcgac actctagttg tgttggtgat cgtctatatg cagatatatt 300  
 gacacatata tgtattgtct ttgtatatat aggttccaga taagctcatt gaccctaaat 360  
 cagtcactaa tgttttccga atatcggatc accacggctg tattttcact ggacttgcaa 420  
 gtgggtgtta ctctgtttgt ggtggcgaaa cctaattttc tttctatagc ggacgcaagg 480  
 gcac 484

<210> 3773  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-D11  
  
 <400> 3773  
  
 ggggccaccc acgcgtccgc atgggtagtc ccagttggag atatagagat aggttttgta 60  
 tttctagcgg ctgttactgg attcctattg tttttggtgg tcttcattga ccaaaatgtt 120  
 tgtacttata ttgtagaaag accagaaaac aaactgcgca aggggtacttc atatagttgg 180  
 aatatggtag tggtaggcatt tttgaatata attgcatcta ttctaggaat tccctggatg 240  
 tatgcaggcc ttcctcattc tttacttcat gtttatgcat tggcagatgt ggaagaacaa 300  
 caagtcattg gaagagtaag ctatcgtatt gtccattcca gagaagtgcg aattggtggc 360  
 ttggtttcct acttgttttc ttttctgata attctagcaa agcctgcgct tgattaactt 420  
 ccgattgatg tggt 434

<210> 3774  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-D2

<400> 3774

ttcacgggtg cccccacgcg tccggaaata ccaaggaagg ggagagttgg aaaaggagac 60  
ttggcaccaa tgactgaaat tacttccaaa gtggaaagaa aaacaacaac agcagcactt 120  
ggagaacttc cacaaaatat tttgtttggt ggattggcag gagtattggg tacaagtatt 180  
atttttcctc tttatacgat aaagaccaac ttgcaaagta gccattcaca ctacagctat 240  
tccaccacat cgagaacaag tttggctttt atttcccaac agtggaaaat aggcagtgtg 300  
attcgttcca ttatangaag agaaggttgg aaaggaatgt atcgaggtct tactcccacg 360  
ttgctangag ttgcacccga naaaggcatc anactatctg tcaatgatat g 411

<210> 3775  
<211> 353  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-D5

<400> 3775

tccgggtgcc cccacgcgtc cgaccgaact tacatcggat cacgcaccga ccgttacaga 60  
tgaggaaatt gaagccatcg tacaagaaga attgagtttg tttcgcaagc agacggagaa 120  
acataaacia attacgacat gactttataa aataaatctt ggaatcgttg gaagaaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa gggggggccgc ccaaaggat caaagcttac 300  
ttacgcgtga atgcaacgtc aaacccttc aaaagtgtca ccaaattca att 353

<210> 3776  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-D7

<400> 3776

ccacgcgtcc gccaacgcgt ccgcggacgc gtgggcaagc tcaatttcaa aaaagtgcac 60

ttgttggttg agcgcgcgcg cgcgaaatga gcattcatga agagcagacg gttgccttga 120

gcaagctaga gtgttaccga aagttagttg ctgagttgta tacagaagct gcccaactat 180

tctcgtctaa gaagtttgcc gaagctgctg acaagggtga ggcagctttg aaagagctcg 240

atgggttatca agaagaggaa aagcaaacctt ggggttttgc cgagctgcag cttctttatg 300

ggaggtctct tctagaaatg ataaagtgtt ctgcttcaaa taatgatgac atatttggtc 360

caaaagtacc taaagtcgtt gaactccaag gctctgactc tgaagaagca gaagaagaag 420

acgatgtttc cg 432

<210> 3777

<211> 480

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-D9

<400> 3777

cctgccggta caggtccgaa attcccgggt ccaccacgc gtccgcacac gcgtccgccc 60

acgcgtccgc ggacgcgtgg ggtcgtccaa caacgacaac aacaacaaca tgtcgtggta 120

tcattcttcg tttgggtgtt acggttttcg tgcttttaga gaaaaatgga tggataaacg 180

tcaaatagat gcgttgagac ttttattaca acgcaaattg agagatgcaa ctggaaaacg 240

tgcagagttg tggactcacg tagaaccгаа cgtaccggtg accaaaagaa cagaaaaacg 300

tatgggaggt ggaaaaagtc ccatcaaagg ttggaaagga agagtaaac aaggacaaat 360

attattcgaa tgggcagctc ctgtcgagat tccggtagaa gaaattcagt ccaagtgtag 420

tgttaggttg agaagtgtcg tggatcctgt ctatcatctc gcttctatgc aacgaaactg 480

<210> 3778

<211> 489

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-E3

<400> 3778

cgggtccgtaa ttcacgggtg gcccgcacgc gtccgcaaac gcatgggtaa acttagaaat 60  
 ccaaatacat gtgaactaac agataaaata ggtaaagttg gtattgtaag aggcttaaga 120  
 ttaacagaat ctaatattat agttttgata gttgagtttg attcacaagt aagaatatgg 180  
 ttttttgagg atgaattaaa aattattaaa taaataatta tttaaattat aaaatatata 240  
 taagattata tggggatcaa tatagaaaaa ataatttctt tattacaaga actaaattta 300  
 gatttttatc atattaaaac aaacaattat gaaattcgtt caaaaaaaaaa tgaatctttg 360  
 ctttatcaca attttaatat taattttaac atttattatt caacatttcc ttatttacia 420  
 actaaaactc agaattgagtt atatcaaaat atagatggcc aaaataataa tgataaaatt 480  
 ttacaacc 489

<210> 3779  
 <211> 222  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-E6  
 <400> 3779

ttcgcgggtc caccacgcg tccgcatgca gaaatgaatc aaggtatgaa acagtacatg 60  
 ggagaaccaa agagtgaggc ttggcgacaa gtagaaagct atgtaaagga acataattct 120  
 tacaagcttt ccgatgggtc tgctggttatt cgattgaaca atatcgcgat tggcattgaa 180  
 gccgagccta ttgaataata aaagcattgt ttgttttgtt cg 222

<210> 3780  
 <211> 461  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-E7  
 <400> 3780

ttcgcgggtc gcccacgcg tccgccaacg cgtccggcag gatattgttac aaaatgttcc 60  
 ggtgaaggta ttacttttgc agcgaaatcg ggacgtatgt gtgcagaagc tattgcggag 120  
 atttctttac aaggagaaag aattccttcc gaatccgaac tgaaggcgac ttatctgaag 180  
 agatgggata gcaagtattg gtcgacttac aaagtattgg atgtattaca agcagtattt 240



tatcgcaata atattgctcg ggaagcattt gtggaacttt gtgaagatga atatgtgcaa 300  
aagatgactt ttgattccta tctctacaag acagttgcc aaggaaatcc ttgcaagac 360  
gtaagactat tgtttcatac attgggagct tttgccagag caccgcgttt ggcaccttga 420  
aaataaaaaa gtgtgtcctg tgtgatgaat tggagtttat t 461

<210> 3781  
<211> 454  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-006-Q1-E1-E8  
<400> 3781

ttccgggtcc acccacgcgt ccgcacacgc gtccgcgaag aagagtttgt gaagcatcgg 60  
gatgccatga tcgatcatat gcgtttttca agttttctga tgggtaaaag tttaggtata 120  
tctgtattct caccttattt ggatcctgct atgattgcat ttgccaagag ttgacaaaag 180  
aaagaaaata ttggggaaaa gtatatccat ggaaaagccc aaatatttgg aaagctcttg 240  
ttacgcgaag cttttcctca cgtcacttca tgttgagaaa acaaggagcc tattgaagtg 300  
ggaagtggta cggctgcctt gggaaatgga tattttgaac aacttgtaga tgattcgtcc 360  
tttgctcgac aggtggatga aatatggaag cacgaaggcg tgtatattcg taccaaggaa 420  
catttgtggg attatcgaat atttcaacag caac 454

<210> 3782  
<211> 363  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-006-Q1-E1-F2  
<400> 3782

cgggccgaga ttacgggtg cccgcacgcg tccgcaaagc cgtccgccca cgcgtccgcc 60  
cacgcgtccg ttatcgtttg tcaaagtttg gttgttttct tggtagcagt tgtacattca 120  
acatcatcaa atgccaaagg gaggaagaa agattcttca aagaaagaag ccacaagtaa 180  
acctgcagca gcagatgcta caaagacgac agaaaagtct ggtccggaag ccaagttgaa 240  
gggaactggg gcaaagaaac aataaaaagt tgactatgca tgttcctggt atgttttgtg 300

agttctgttt gatagtttcc agctattctt ttggtagtga ataaagagaa aattttttat 360  
att 363

<210> 3783  
<211> 420  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-006-Q1-E1-F3  
  
<400> 3783

gtaccggtcc gtagttcacc ggggtgccgc acgcgtccgg tatggggatt agttgtagtg 60  
gtgttgtctt tgcgtgatac taggatggga ggtttcggct actttttaaa gtcaactttg 120  
ttttctggca gacacccgga gattattccg ttggtttccg ctattgctct gtgtggagtt 180  
tgtgcggttt ttgtgagcat cgacaacttg ttttataatc caaccgtggt agctctcaag 240  
tcagagcggg aagcgtattc gcgcaatgag aggcaacgtg actatgaaga cagacccttt 300  
ttgaagttgg tgaaaccact tcgtgaccgt cctatcagtt ttatttcccc aaatgatgaa 360  
aatagcagga ttcctcatta gttggatagt acaataaata gttgttgagc tttatgttgg 420

<210> 3784  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-006-Q1-E1-F4  
  
<400> 3784

cgcttgctgt gacggtccga gattcacggg tcgccgcacg cgccgtact cttgaaggat 60  
gtaccgtcag tgcttgaaga gagttttcaa gtagcgtttc ttggcttcag aagcggggaa 120  
atattggaaa ggaagcacia ggtctttttc tagttcagct gggaccaga ggaatgattg 180  
gaggtcttct gtaaagaagt tatctgttgc tgccagcgta ggtgctgctg tggctgcctt 240  
ttatggaatt gaaagacaga ggagagcccc tatttcttgc aaggaggcag aaactagtgc 300  
aaagggttcc gtgaattatg acaaggtcag agaagcaatt gtaaagatca ttgaagagga 360  
tgataatatt gctcccacca tgttgcgctt ggcttggcac tcttcgggaa cttatgacaa 420  
gaaaaccaac a 431

<210> 3785  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-F6  
  
 <400> 3785  
  
 ggtccacca cgcgtccgcg ataaggaact aggcaaaagg atatggtatc tgcggtagaa 60  
 catatgaaag aagcagcacc gactgttttag caaaaacaca gcactctgca gaaaagagaa 120  
 aatgtaaagt atagagtgtg cggcctgcc aatagtagag aagaaatcga tgaaagtgaa 180  
 agcgagtaaa agatgaggta tagagaatgg cggtcctaac agtaaggatc caaaggtagc 240  
 gaagtaaata gacgtttgaa aggcgtccag tatgaaagga gaaacgagtg tagcactgtc 300  
 tagtcgtcca actcagcgaa acagcaataa ctgtgaaaat gcagtaaact agcagtagga 360  
 cggaaagacc ccataattct tgactagata ggtttaagga ggagagagaa tcatgaagta 420  
 gaggaggtgg ggtaagagat gaaagaccac tgcac 455

<210> 3786  
 <211> 344  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-006-Q1-E1-F7  
  
 <400> 3786  
  
 taccggaccg agattcgcgg gtccaccac cgcgtccgcag aaaacagtgt tttttagttt 60  
 tgtgacatta agtgccaaac ggaatactat gcctgtacac tttattagta catgcgaata 120  
 gaatggcagt ttggcaacac tatgaaacaa gcatagccaa tgaaaggcca ggttttaggtc 180  
 aggttggttg ataaccacaa cgcaactttt tccacagctg gagaacttgc actcatagca 240  
 aatatacaat ttttatcttt agtatgtggc aagtgcgcct agcgcatttg gcgtgggttg 300  
 tttgcaggat aaacttgtgc cgcctcacag gaaagtcttt tttg 344

<210> 3787  
 <211> 479  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-F8

<400> 3787

ttccgggggcc acccacgcgt ccggagattc ttggcgactc ctggatattt gtcggttgagc 60  
agttgttttca ttgtacggc gttgaaaata agattctatc gagaagattg tatgtccaag 120  
tctagatttc atattacagt tggacattcc actgcagttg caaccgtaac tttcttctct 180  
caaatgcaaa acggaagcgg agatttctcc tttaagcaac gatattttta tgagagacaa 240  
ctggagaatg aagagtcgga ttctgaccc cctagagtgt ttttcgcttt gatcaagaca 300  
gacgttctct tatgtattta tccaaatggt gggttcatag cgtctcgctt ggattgggat 360  
acggaagtaa acagatgtag aattgcattt cacggacaag tagtggcgaa gatgcaaaat 420  
gtggctgcag ctganaagat ggagacaaaa gatgacatgt tgcattctac ncaagataa 479

<210> 3788  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-G1

<400> 3788

gtgacggtec gtagataccg ggtcgacgca cgcgtccgcc aacgcgtccg attcgcgatg 60  
gaacaaaaac ctattttata ctcatactgg agaagttctt gctcttgag agtccgaatt 120  
gcggttggcag tgaaaaatat cgactatgaa tacaaggcta tcaacttggg aaagaacgga 180  
ggtgagcagt ggggatcgga gtatgagaga ctcaacccaa gtcacactgt gccgacgttg 240  
gtcgtggacg gtcatactat tgggcagtc gttgccatta tggagtactt ggaagagacc 300  
cggccacaag tgcccttggt accaaaggac cgggctcagc gagcaaaagt tcgtcaggta 360  
gtagaaacag taaatgcgga tacacaacca ctgcaaaatt tgagggttct gc 412

<210> 3789  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-006-Q1-E1-G11

<400> 3789

cccgggggtca cccacgcac cgcacacttg ttcttagggc aacttgtegg ggttttgttt 60  
 tggcgccatg gtggtatgca aatactttct tcgaggtaac tgcaaatttg gtcgcaattg 120  
 taagaacgaa caccctatgc agaattgctgc ttccaacagt tttggtgctt ttcaaaaaga 180  
 gtgggaggat ccttttcatt ccggagcggg acagtcttct tcagttttca ataattttgg 240  
 aaaccgcagt gggaaaccaa cgagtcaaga tccttttcgt tcgttcaact cttctgggaa 300  
 tggcttttat cgtaaccagc gaaacaaagt tgctagggat atcacttcgt ccaacgacga 360  
 tgcacgatgt cgtggtagag ttg 383

<210> 3790  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-006-Q1-E1-G3

<400> 3790  
 taccggtccg tgattcacgg gtgccccac gcgtccgcca acgcgtccgg ccagagggaa 60  
 aatgaatttt caggtgttgg aggtgcgtat tccaagagt tgggaacaga acagcacttg 120  
 gagacataaa cgttgtaata gaagcaacac atataggaat cgctctttta ttcataatat 180  
 gtcagggctt gtttgtcaca gagcacttat attaatagat cacggcagta aagttccaga 240  
 ggcaaacgac caaattgcc aagttgcttc tctagttgca aagcggcttc caaatacttt 300  
 tgttactttt gctcatatgg aattagcgaa acctgatttg atggaggctt tcaactctatg 360  
 cgttgaaaat aatgctagga acatcactgt ttgtccgttt ttcttgtttc ctggaaaaca 420  
 ttgcactgta natataccgc 440

<210> 3791  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-G4

<400> 3791  
 ggtccgtaga ttcacggggc cacgcacggc tccgcagcaa ggaacttcga caaactgttc 60

gagtgcagat tggagccatt gctactcccg atgtcattca ttgggcacct gctttaccga 120  
 aaacgagaag tggcaagatt atgcgaagaa ttttacgtaa aattgcagag aaaggaacgc 180  
 atgtctcttc ggatgaactt ggagatattt ctactttggc agagccacaa gtggttgctc 240  
 aacttattga attgtatgga aaatgaatgt ggtttttttt ggttggttta tttgtgtgtt 300  
 tgtttggtg tggtgtgtg tggtgtgata attgattttt ctcttctttg cctatctata 360  
 ttatagaata tgaggtatga tatatgaata gatagagaga aaaaatgaag aaaagatgtt 420  
 tcatttg 427

<210> 3792  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-G5  
 <400> 3792

ttccgggtcc acccacgcgt ccggaatgga gtacaacaaa gagagacgat gacttggatt 60  
 gtggatcaca cagcgtatgc tttcttcatg aaagctcacg attcgatgag aaaaagtagt 120  
 gatgatattt gcacactact acttgggtgtt catcggggaa ggtccgggtt tgcccacaac 180  
 aacacttgct gtgttttgct cgtgagagca ccactagtgg acatatccat ggtggtccta 240  
 cttaccagaa atgacactcg ctctgcacac cttgttggtg gatcctatgc cctcactct 300  
 tatgtctctt gtgttggtgaa aagacataaa ggtccttggt gcttttatgg atgcgagcca 360  
 agggacacga gtctcgggtt ctcaagtcca tgggtcaagtt gtg 403

<210> 3793  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-G8  
 <400> 3793

ggtccaccca cgcaaccgaa aacacagcac tctgcagaaa agagaaaatg taaagtatag 60  
 agtgtgcggc ctgccaaata gtagagaaga aatcgatgaa agtgaaagcg agtaaaagat 120  
 gaggtataga gaatggcggc cctaacggta aggatccaaa ggtagcgaag taaatagacg 180

tttgaaaggc gtccagtatg aaaggagaaa cgagtgtagc actgtctagt cgtccaactc 240  
agcgaaacag caataactgt gaaaatgcag taaactagca gtaggacgga aagaccccat 300  
aattcttgac tagatagggt tagggaggag agagaatcat gaagtagagg aagtggggta 360  
agagatgaaa gaccactgca tgaggataag gaatctaact gagtaaggaa aataagctta 420  
agctagtttg gctggggaaa gtaagcctaa gaaag 455

<210> 3794  
<211> 457  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-006-Q1-E1-G9  
<400> 3794

gcctgcagta cagggtccgaa attcccgggt ccacccacgc gtccgaccaa agcaagttac 60  
ctagtaccgc atacacatac cgttttatcg attctggaag cattggagac agacgatcat 120  
gcgacagaaa gttagtaacc tgcacttttc aggtaatcga ctattcttcc tacagccgtt 180  
gcacactcgg cagcagatac aggtttggta aatatcgcta tgatgagaca catattgggt 240  
tgcatagcta caaagccatc gtcaccctat attgcaatga tcattatgca tacactctcc 300  
tacatccata tatatacaca tacacacaca cagagaaagt gtgcgtatgt gtgtatgggt 360  
cagagagaat gtgaaagaaa cattgttaga tataataatg aaaccaacga caaaaacttg 420  
ccagtttcnc ataaatagta tcttctgtcg aacgcac 457

<210> 3795  
<211> 438  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-006-Q1-E1-H2  
<400> 3795

gcgggtccgag attcacgggg ccaccgacgc gtccgcaaac tctgcgaagc gtggtgggag 60  
agaccgaaca aatgataaaa gtgcgactac gagaagagt acggaaacta gtagaggaag 120  
aggaagtgga agagcaagag ctccattccg tggaaacaac ggacggaatg agcgccctcc 180  
aagagaaagg aatattggaa gaaacgacaa gaaacctttc tctagaaatg atcaaaggcc 240

gaagaggact cccaaagaag catcggaaaa gaagcaacgt ggacctgctc ctaatttgac 300  
 ggatgattgc aaacataagt tgacctttta tttgccagca aacggccgct atcttcgtgc 360  
 ttgggtagat cctggaagtg agtctcaaac acccaaaaga aacgacgctg gacatgtcaa 420  
 agttgctttt cgttcttc 438

<210> 3796  
 <211> 273  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-006-Q1-E1-H6  
 <400> 3796

gggtccaccc acgcgatccg ggaaattgta ttgaagaagc aatcgaatct tgccgttgct 60  
 gcggatgtaa cgaccagtca agaattatta tccattgccg gtcaagttgg tccacatata 120  
 tgtgttttaa agacacatgt ggatattatc gaagattgga acgaacgtgt gtgtgagcaa 180  
 ctcggttcatt tggccaagtc gcatcagttt ttgatatttg aagatcgcaa gtttgcagat 240  
 attggcaata cggttgagtt acaattcact ggc 273

<210> 3797  
 <211> 371  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-A4  
 <400> 3797

accacgccg tccgaaaagg aatggcggag aaaaatcaaa caagtttcct caaacgaaca 60  
 gaaaaacggt caaaaaacac aaaaagggt tttgaaaaa aattttgcaa atttttcccc 120  
 cttcaagggt ttcaattcct cccatgagga agatgatgat gatggaggag ctttgaaact 180  
 gtcctttctg gatttcattc cttgcttata actttgcaa aacttcaca acgtccgctt 240  
 ctttctttgc aactccagat tgctttcatg ttcctccaga tttgcgaaaa atgtatttag 300  
 ttctatattc aaagtagatt cctacatgtc ctttcagtaa atcaaacgac gacgtccatt 360  
 gtatacgaaa a 371



<210> 3798  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-007-Q1-E1-B3

<400> 3798

```
attcncgagt cgaccacgc ctccgcccac gcgtacggga ctttaaggga accctcttcc 60
cctgttgggg ttactgttgg taaataatgg taaaaaatgg aatccaaatt ggaataaag 120
ggtttgggaa aatttgaaag gcaattccta aagctgcctt ggggaaacaa tccgttaaag 180
ttggaaccaa caaccattcc tttaatgatt tggactaaaa ggtccaaaag ttcaaataat 240
gactctgttc accgggccta tccaagtaca gtggtagcaa agaaatggaa acttgctgtg 300
gatggacacg aaatggcagt gtttgccttc cgtgacccta gtgagatccc ttggtcctct 360
actggagcag aatatattgt ggaatcaaca ggagtattta ctgctgc 407
```

<210> 3799  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-B4

<400> 3799

```
caccacgcgc tccgaaaaga ttgccatagg aaattggacc aaaacctttt caaaaaattt 60
aagggtgaag ctctctcttc tcctctctct cctaaacct tcaataccaa caacaattac 120
tggaacacct atttgtattt aggtttctgc gctattaaaa gaaggagatc gcgtattgaa 180
tgctattcga aagcatacag ttcctagtgg tatgtttaca gaggagattg atcgatatac 240
tggtttcgag caaggagcta tcaatttaac ttggagttat gatgcctttg ttactgcggt 300
ttggtcgaga gaagatgttc acaagttggt ttctaaatat tgtgaacctc cttctccatc 360
tctacctagt atgccaggac ctgggtggtt atcttctcca tagtaag 407
```

<210> 3800  
 <211> 484  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-C11

<400> 3800

gggccggata tencgggacg gccacgcgt ccgatggaag ttaggcaatg ttgcttgtt 60  
ttcatatgtc tttcagctct gttaggttca actttggctg cttctggtgc aacgtctatt 120  
tactcgttgc ttcagagtaa aagagactat acttttacag tgcaaagcat agagctggct 180  
aatctaacag atgtatacaa cagcagtgtg ctggacttta ccttccttgc ttccaatgac 240  
actgcttggg aacaatccag agccaatgtc actggtgcac ttagtgcagc aaaacaaaac 300  
gtaacaggag caatagcgtt tctagaacgc ttgatagcag caagcacagt gaataaaacg 360  
gtggagttaa gtacgctctc tagtggtagc aaagaggttg tttctctggc atgtttgccg 420  
cttaatttca cgaaaaattc tactggagac tttgtggaag gtgattcggg ctctgctgct 480  
gacg 484

<210> 3801  
<211> 195  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-D10

<400> 3801

ctgcgtctna cgggccggat attccgggac gagccacgcg tccgcccaca cgtccgggag 60  
agttggcatt tgaaaatatt gcacaagcgt ttgaagattt acatagtgga aaagctattc 120  
gaacagtgtt gaaatattct caggaaaaga aataaaaaag aaagagagag agtgtgtgtg 180  
tgtgtgtctt aaaaa 195

<210> 3802  
<211> 322  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-E7

<400> 3802

aggacgcgtg ggtttggttg ttttcttggg agcagttgta cattcaacat catcaaatgc 60

caaagggagg aaagaaagat tcttcaaaga aagaagccac aagtaaacct gcagcagcag 120  
atgctacaaa gacgacagaa aagtctgggc cggaagccaa gttgaaggga actggtgcaa 180  
agaaacaata aaaagttgac tatgcatgtg cagtcctgtt atgttttgtg agttctgttt 240  
gatagtttcc agctattctt ttggtagtga ataaagagaa aattttttat atttaaaaaa 300  
gacaaaaaaa taaaagaaaa ag 322

<210> 3803  
<211> 440  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-F3  
<400> 3803

caccacgcg tccgagcatg gaacaagaac aagtaaaaca ttatcaactg gtggaatttg 60  
caaacacat taccaaaaag gatgcttgga ttgtgttgga cggaaaaata tatgacgtga 120  
ctcgttttct ggacgaacat ccgggtggag aagaagttct acttgaagtt gccgggcgtg 180  
atgctacgag agagtttgaa gacgttggtc actcgatga ggcaagagaa ctacgaaaca 240  
agtatttcgt gggagtagtt cgtagtgaac cgaaagaaga attggaacga gcagaacgag 300  
aaggaatcaa gccagtgcag tctgcgaacc aaccggaagt acccttgtgg aagaaactgc 360  
ttattncgg taccctcgtg gttatggcct ttttgattcg aaagtatatt tccaaagaga 420  
ctattttgtg acattttttt 440

<210> 3804  
<211> 342  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-007-Q1-E1-F5  
<400> 3804

ttttctctct cttttcttct actcctttcg gatttctatt atgacgccgc cttacactct 60  
cttctttcta cttccttctc tcgtaaacct ttctcttttc ttacctttta cttcccttct 120  
cttgtttcgc tactccacc agcattctct cttctcttct tgctcctcta cctcttacc 180

tgattcggtc ctctttctat cctgtttctc ttccacagac aacaaagtcg agactgttgt 240  
 gcatcttact gtgttgccctc ctttgctacc aatgcttatt tgcggtagaa ttttcgagca 300  
 atgcgtcttg tancagctca atgataatac tgtgctatta ga 342

<210> 3805  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-G1  
 <400> 3805

accacgcgt ccgcacctt atattctttg tgcttgaca atggttgcaa agactgctct 60  
 gagttgcctc tttctctctt tccttatcgc tgccgcagtt gcagccgacg tagtttcaga 120  
 ggagagatgg ggatatgctc agcaaacca acaacagcaa cagtgcacaac aagtatgtaa 180  
 acagtatgca tactatcaga gtccagctcg cacttccgta accacacaga gcccatactg 240  
 gacccaatgc tcgaagactg tgcaaacctt tgtcccaagc cagtgcagta cttataacca 300  
 atctcctaca tggacctatt gcagcaccta caccaccact agcgtaccat ctcaatgcag 360  
 caaggccgtg actacctata ctcaaacctg ctgtgcttat gcccaacaaa ct 412

<210> 3806  
 <211> 416  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-G2  
 <400> 3806

caccacgcg tccggttgaa ttattctggt tcgtttactt gtctttttgt tgagttatca 60  
 tggcacgaac aaaacaaaca gcacgcaagt ctaccggtgg taaggcacct cgaaagcagt 120  
 tggcaaccaa ggcagcaaga aaatccgcac ccgtaactgg aggagtgaag aagccccatc 180  
 gttaccgtcc cgggtactgtc gccctgagag aaattcgcaa gtaccagaag agcactgaac 240  
 ttottatccg aaagtgcct ttccaaagggt tggttcgtga aattgctcaa gactttaaga 300  
 cggacctacg tttccaaact tcggcgggtga ctgcccttca agaagcctcg gaagcatact 360  
 tggtcggttt gtttgaagat accaatcttt gcgcaattca tgccaagcgt gtaact 416

<210> 3807  
 <211> 370  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-007-Q1-E1-G3

<400> 3807  
  
 tccacccacg cgtccgataa aaggtaaaaa aaaggaaaag gaaaaaaaaa aaggtttaggc 60  
 taaaaagcaa caaacaaaaa aggaaacctt taaagcatga aaaaaaaaaa atccgaaaaa 120  
 aaaaagaaaa aggtaagaaa gaggaccgaa tcagggttaag aagtananga gcaagaagag 180  
 aagagagaat gctgggtgga gtagcgaaac aagagaaggg aagtaaaagg taagaaagag 240  
 gaaaggttta cgagagaagg aagtagaaag aagagagtgt aaggcggcgt cataatagaa 300  
 atccgaaagg agtagaagaa aagagagaga agaaagaaaa gaagagaaaa gccgtactga 360  
 agaccgacac 370

<210> 3808  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-007-Q1-E1-G7

<400> 3808  
  
 cgctgtcgg taccggctct agattcccgg gtccacccac gcgtccgatt tgctgtttat 60  
 gtcgaagcgg ggcattctttt acaatgcgcc cttcaactgc agttctaaag tttcaaagtt 120  
 tctgtatact tgcactgtaa tttttctggc tttttggatc ctatcttctg tctatttgaa 180  
 acctgtacca tcttacaatg aggccactca acggaggttc ttttacccca caagcaaccc 240  
 tactcggatc ccaagtatca tccaccaaag ttggaagacc aacgacgtcc cagaaagata 300  
 caaaagatgg atacagagtt ggaaggaact gcatccaagc tggaaatata tactttggac 360  
 agaccgaaca aatagaaaac ttgtgcttag acaattccct tggttgattg acatatatga 420  
 cagactgcca gtaaatattg 440

<210> 3809  
 <211> 440

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-G8  
 <400> 3809

ggtcctagaa ttcccgggtc gacccaagcg tccgaccacg cgtccgcca cgcgtccgcc 60  
 cacgcgtccg cgcggacata gaatggcaac agataaagtc agctaagaag atatactctt 120  
 atgtaaaaga atcaaaaacc aaagaatatt tggagctaga cgattcggtg cagcagccag 180  
 tggattcatc ttgtagcacc aagtggctgt ttattgcaac cccactgttg gaagttgctt 240  
 gtactgatgg gcagcgaatt gaaatgattc ctttgaagaa agatataaag gaattgtttt 300  
 tctctacttt aaagaagaac tttagtcga acgaagcgtc atgggagtg agtgtagttg 360  
 aaaccgcagt tgctgttttt atccagtatt atgaacagtg cgtggaacag tactatctag 420  
 caggcaaaga ttatgagcta 440

<210> 3810  
 <211> 408  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-H5  
 <400> 3810

accacgcgtc cgggtgtcgg cctgccaaat agtagagaag aaatcgatga aagtgaagc 60  
 gagtaaaaga tgaggtatag agaatggcgg tccaaacgtt aaggatccaa aggtagcgaa 120  
 gtaaataagac gtttgaaagg cgtccagtat gaaaggagaa acgagtgcag cactgtctag 180  
 tcgtccaact cagcgaaca gcaataactg tgaaaatgca gtaaactagc agtaggacgg 240  
 aaagacccca taattcttga ctagataggt ttagggagga gagagaatca tgaagtagag 300  
 gaggtggggg aagagatgaa agaccactgc atgaggataa ggaatctaac tgagtaagga 360  
 aaataagctt aagctagttt ggctggggaa gtaaagccta agaaagag 408

<210> 3811  
 <211> 352  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-007-Q1-E1-H8

<400> 3811

aagctccaac tcaagagcaa gatagacaga caacgcaaag gttgaaacga tgatcatttg 60

aagggtgccag ggcgaggagg caaacttaaa agaccagttt gcaactgtcc agaaggtcca 120

tttccaaaag gtccctctcc atatccaagc atcggagttt gctgagttgg ttgtaatccc 180

tgaagaacaa ccgaaggatc ctcgttgatt tgtgcttctt cagcttggtg cttctccttc 240

ttacgtgaa gttgtgcagc tctttcgctt tctaacctac cgagtctcga ggtgaggtca 300

tgtaactttt gaatcatata aggcatagta aagtcggtag cttgatgttg cc 352

<210> 3812

<211> 458

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-007-Q1-E1-H9

<400> 3812

cggtcggat attccgggtc ggcccacgcg tccggttatt gcactaggtg acaaggaaga 60

taagagcaca gtcaaagtgg gagatcaagt gaccgctgaa caaatcgtgg cttgtggaaa 120

ttgtctttat tgtcgcaagg gtcttcggtg gctatgtgct cctcacgata tatttggtta 180

tcatcgttgt gttcacggtg gtatgggaca atatatgcgg tttccagaaa aaagtatcat 240

ctacaacatt cccaagaaaa tttccccttc cgaagcagta tatgtggaac ctttaagttg 300

tggtgttcat ggagcacaga gaggtcgtat tgaattgggt gatactgtag ttgtcagttg 360

ttgtggctct attggcttaa gaatgggtgc cgctgcaaaa ctggctggtc cttctcgtct 420

gacgccttg gattgtatgg attcaagact agatattg 458

<210> 3813

<211> 116

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-A2

<400> 3813

attcacgggt cgacgcacgc gtccgcccac gcgtccggaa atgtggatgc ctccgatggt 60

ggaaagaaag aagaagcgtg cttggattgt tatcgttgcc agggttggaa aacaat 116

<210> 3814  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B1

<400> 3814

```
tccggcactc tattatattg gttatcaagt cggagtatcg cctttggctt gggccatcaa 60
cggagaaatt tatgaattgc acgtgcgcaa ttggggaatg tcgtggggtg cagccattct 120
tttgggttcc gcattctcag tgagctatac atttaccaga caagtacgag catttacgaa 180
aactggagta tttggattgt atgcaggatt taccctcatt ttctgggtta tccttatcat 240
tttaatgcct gagacaaatg gaagaacgct agaagatatt cgaaatatat tcgatgaagg 300
tttaattgga ttggcaaaat acaactggag ccaaaccaaa acatgggtca ggacgaaatt 360
agggaagcag catg 374
```

<210> 3815  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-B3

<400> 3815

```
gtagccgtcc ggaattctcg ggtcgacgca cgcgtccgcc cacgcgtccg cccacgcgtc 60
cggtttggga taatcttcac tccagtcaac caaaatatcg tttagatcag catcttgcag 120
ctgtaaaagc cattgcttgg tgccttggc aatctcattt acttgcaagt ggtggaggaa 180
cggcagatag aacgatcaag ttttgggaata ctacaactgg ctctgttta cagtccatcg 240
atacaaaaag tcaagtatgt gctttgctct ggaatagaca tgataaggag atcgtcagca 300
gtcatgggtt ttcacagaat cagctcatcg tatggaaata tccttcgatg gtaaaaattg 360
cagagttaac tggacacact tcgagagttt tacatttggc tgcaagtcct gat 413
```

<210> 3816  
 <211> 324  
 <212> DNA  
 <213> Cyanidium caldarium



<223> Clone ID: LIB190-008-Q1-E1-C4

<400> 3816

accacgcgtc cgcaaaatct gagactctta tagaagaata tacgtttctt ggtgtggaga 60  
cagaagcttg gactaaaaaa gaaggaaaat atgctcaagg gaaactcgca ttatccatgg 120  
cttctttact tttttgtgat acctgatagt aaagatgaaa gtagagagta tagttttctg 180  
tggttttttt ccttgtgtct tgtgaaagta tagagagatg gagtataaaa gacttttttt 240  
gattaaaaaa ataaaaaaa taaaaaatat aaaaaaatca gaaaaaaaaa gaatagaaaa 300  
aaaaaatctt caaaaaatgt atac 324

<210> 3817

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-C6

<400> 3817

gtatgaaagg agaaacgagt gtagcactgt ctatcgctcc aactcagcga aacagcaata 60  
actgtgaaaa tgcagtaaac tagcagtagg acggaaagac cccataattc ttgactagat 120  
aggtttaggg aggagagaga atcatgaagt agaggaggtg gggtaagaga tgaaagacca 180  
ctgcatgagg ataaggaatc taactgagta aggaaaataa gcttaagcta gtttggtctg 240  
ggaagtaaag cctaagaaag agtaaattag gcaagcaaag gcatgagaga agtataatag 300  
cagaagcatg cttgaagaaa aagaaagaga ttccagaaag ggaagaaaag tcagctatag 360  
agaacaggtg aaggag 376

<210> 3818

<211> 408

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-D1

<400> 3818

tagccgtcca gaattcacgg gtcgacggac gcgtccgcca tttgaatggt gactactcga 60  
agttcgtcaa agaaaatata aagtctgtca agaacagaga aagagaatga caattcagat 120

atcaactcgt cgtatacacc gtatcaggaa acctgttcca aaaacgacag taagtgtcct 180  
 atatcttcaa caaaattctt ccaactcgat tcaaaaggct ccacggagaa aacaggtaac 240  
 aaactgacaa gggaacttgc ggcacttggg gtcattacac atccaaagag aactcccaag 300  
 aaaaacttgg attttgaaat gttctcttcc atgaacttaa atgttgaaag cgctgataca 360  
 cgtaaggaat atgaaaagct aagaatagga acttacacgt catagacg 408

<210> 3819  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-D2  
 <400> 3819

attcacgggt cgacgcacgc gtccggtgta agctgaagga tgccttgagg ttcttgtggt 60  
 cgggtttcta gttgtgcttg tggagaaaag tgtccgtgag ctacgaagca ttgtcattgt 120  
 ggtgaccaa attgtcgctg tggtaaaaaa tgtactgggt tgagtgtgta aacctccaag 180  
 tgttgtgacc gttgtcaagg gaagacctgt ggttgacgc gttgcccatt tgaagcagct 240  
 actagctaca agaagtatcg ccgtttttca gtataagata cctgagtttg taggagtttt 300  
 gaagtgtact catccagaaa acttacatgt tgaagcgcgt gatacacgta aggaatatca 360  
 aacgctaaga atatgaactt acacctcatc cagcatc 398

<210> 3820  
 <211> 426  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-E1  
 <400> 3820

tccagaattc acgggtcgac gacgcgtccg ctgagcgcaa ggattgctag ttctgctgca 60  
 aaaacgacaa acgatagaga agcttcagag ggagatcgcc ctgtaacgaa aagtctcttg 120  
 ctgcacagaa gatattataa cagcttcgct tcctaggtgt gaaaacctac gttgcgtttc 180  
 gactgggtcta ttcggctgtc taccagttac tttttctca taggtcttcg agtcccataa 240  
 agacgtcgat ttgtacaaac gacttttctc tcgcgatact gtgtttgctg cttttccaga 300

aattactcga aaaaagcggg agcgacactg aatacctgtc cttcctgtgc caagagtcct 360  
 tgcaatatct gaccatttac tgccaacttc cttttaaggt ttcaataact tccccgtttc 420  
 ctcctt 426

<210> 3821  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-E3  
 <400> 3821

tagccgtcta gaattcacgg gtcgacgcac gcgtccgccc acgcgtccga gctttccact 60  
 ccgtaattat tgggtctgaat cttggaataa gcacaggatc gacattccgt acgttggtttg 120  
 ctgctctcgt atttcatcaa ttctttgaag gatttgctgt cgggtactact gtttctgaag 180  
 cccatttttg cacttggatc actatagtaa tgggtactttg ctattctttg gaaactccaa 240  
 tcggtatatc gattgggtatt ggtaatgcac acacttatca ggaaaactcc tcggcatctt 300  
 tgттаacgag aggcattttg gatgccatct ccggtggaat tttaataatac acaggattgg 360  
 tggagttggt gacttattgg ttacgcgca actcgaactt tttaagacgc aaagccat 418

<210> 3822  
 <211> 442  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-008-Q1-E1-E5  
 <400> 3822

acgccgccag gtaccggtct agaattcccg ggccgaccca cgcgtccaag atattttatt 60  
 ctgaaaattg gtactcgaga gtttcctgtg gatatgccta aagacgttta tagtcgagta 120  
 gccaatatct tgagtattct ttatggagga gacttgaagc gtcaagtata caaaacaact 180  
 ttacaccag acgactatca acagttggaa caagaaaagg atttattggt atctctttgt 240  
 gcattgtata tatgttatgt caaacgttta aaaggacttc cttatgatac ccttgcaacc 300  
 tttcatttag gaaatggagc tgaattatcg gatatatggt ggatggcaga taattcccca 360  
 atggcaatga cgaaaaacct ttgtttaatg gcattattta gttatcgatt ggagtatcaa 420

gaagaaaacg tgattatatt tt

442

<210> 3823  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-008-Q1-E1-F1  
  
<400> 3823

attcacgggt cgacgcacgc gtccgaaaca ttattatcta ctgtaaaacc tcgttttctt 60  
tgtttctgcgc atcaaccacc accaccacca acaacaaaag acctccatgg tatttttctt 120  
gtatataaac ctcccaactg tacatccttt caagtcgtaa aaaagatacg ttctatcatc 180  
ttgaaagaaa tcaattcttc caacgctgga actggtcgca agtggatcaa agttgggtcac 240  
gggtgtactt tggatccatt tgctaccggt gtattgggta ttgcagttgg ttcagcttgc 300  
tcgcagcttc aaagttttct tcaaggttct aaagtataca aagcaaccgt gaagtttggt 360  
gaagaaacgg ataccatgga tctcactggc cgagtgatag caacccaacc tgttctctcc 420  
aaaataacgc ccgatgaaa 439

<210> 3824  
<211> 380  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-008-Q1-E1-F12  
  
<400> 3824

ttacgctcca cgcagtgtga gttgtcgttg cgcagtgttt gaaagttata gtattactta 60  
ttgttcttgg ttggcacact actgatggac gcagaatcga gagagaaatc tgtttacctt 120  
tccaagttgg cagaacaagc ggaaagatat gaagaacatg aggaagaaag aggcaaatac 180  
gggaaagcag taaaagaaga aagagaaagg aaaaaactga gtatcaggaa gaaaagaggg 240  
agtagatgag gaaagaaaga tcaaggaagt aagagtaaga gaaggagtaa tgtgaatgaa 300  
agcaggaaag tatttgaaga agagagtgta aagcgcgtac cttttgcata atgtcccagc 360  
gagtgaaaga ggaagcaaaa 380

<210> 3825  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-F2  
  
 <400> 3825

```

tccagaattc acgggtcgac gcacgcgtcc gcccacgcgt ccggttgaag aaaaaagagt   60
tgtctgagga ccaaacagag tgacaagaag agatggcaag gagaatattg ggtgcttata   120
tgggagatgc cacagtggca actctgttca gtatcaaaat gttgttctat cttactatca   180
tgggtttctc cataactatc ttggctctca tgggaaagaa ctcggatggg atttggatac   240
atagtgtgcc acctgcagaa caatattgtg catacaagtc ttcattggag gtgaaccacc   300
atggaattgc ttcctattgc aagtatatcg ttgccgtagc tgctattggg ttggttatct   360
cgtttttcca gttttgctac ggtctgttgg gtatcttttt caagtggcaa caaa         414
  
```

<210> 3826  
 <211> 458  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-008-Q1-E1-G1  
  
 <400> 3826

```

tagccgtcca gaattcacgg gtcgacggac gcgtccgtca tccaccagct attattaccg   60
agcagctgct cctcagagat ggtatgagga acaatgcacc tcatactgct gggttccagt   120
acagacctat gaaacttatc aatgttctca agagaagaag aaggagtaca gctatccttg   180
tcaaacttat gagcaggttt caactactta ccagtgtggg cagtacgagt cccaacaagt   240
ttactaccaa tgccaaaagt ataaggaggt tactcagcaa gaatgccagt acgtccaaga   300
gtcgtattgt gtcgagtatg aagaatgtca gcaagttacc caggaagttt ctccttcaga   360
aattgtctac tacgggtgaat cttcttctag cagtagttac tactactaga acacttgtga   420
aatgccc aaa attcccaa taaattgtcc ttttttga                               458
  
```

<210> 3827  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-G2

<400> 3827

attcacgggt cgacgcacgc gtccgcaaaa atgttattta aaggacggca agacttggtc 60  
tattcgaatac cagaactcca actacaacat tgaagtggaa gtgacagaca agaagcaatc 120  
ggtatatata tctcgttgta atgacaccgt agtaaaggta actggaaagt gcaactctat 180  
caccattgat agttgcaaca aatgtggagt tgtattcgaa agctctttga gtacttgac 240  
agtggatgaat tctcgttcag ttcagctcca ggtggagaaa caagctccga gtgtgacgat 300  
tgataaaacc gacggcgcaa atatctttat accatcaagt attgtttcgg aaacacagg 360  
tgtttaagca aagtcttcat ccgttaatgt aactgtcaca aatga 405

<210> 3828

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-G4

<400> 3828

attcacgggt cgacgcacgc gtccgcgcga acgcccgaat tttgtgtttc tcatgaagcg 60  
ttattattac cttacgaaga agcactaacg agatatgacg aggaaaaccgg caaatattat 120  
gcaacttctg gtcattttct atgggttgga gatcgtacga ggcagccaga ttgtggacat 180  
gtggagtttt taagaggcat cgacaatcct atcggcatca agtgtggacc atctttggca 240  
gtggatgatt tacttcgttt gttggatatt ttagatcctg ataagagcc tggacgtatt 300  
aactgattg ttcgtgttgg agcgggtcga gttgccgaac atcttccaag gtttgtaaaa 360  
gcagtgcga aggaaaatag acaagtcgtg tggagttgtg atcccatgc 409

<210> 3829

<211> 205

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-008-Q1-E1-H12

<400> 3829

agcaaagtca atggaaaagg aagaggaaaag gcgaaaaaag tagcgaataa accgagaacc 60

ttacctctcc aagaaggtgt tgcacggctg tcgaaagaac gtgctgtgaa gtgagagaac 120  
gtacgagaaa gccaaagtga gaaaagaagg caagtagagg gcggcccgag aaaggagagg 180  
gcgtaagacg tgatacagag taaaa 205

<210> 3830  
<211> 415  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-A1  
  
<400> 3830

attccccgggt cgaccaagcc ttcgaccaac ccttcggcca acccttccaa aaatgatgat 60  
gacatttgtg aacccttgtc gcccttttac gggactttgg aatcctttga taaaggtatc 120  
atcttgcctt aaaaatatac tagaatggtt tcatattatt gtctactatg ttgggatggg 180  
ggctcgctcc aactcttgtt gtgttgccac aaatctgtac tttttgagag cttctgcaag 240  
tcttcacaa aagtcaaaag caataccttt tctcgatcgt ccgcctgctt tggatgggtc 300  
catggttggc gatgttggtt tcgatccttt gaatatctcg tcctatttag acttgcgttg 360  
gttacgagaa tccgaactca aacactgtcg cattgctatg ttggctgttg tgggt 415

<210> 3831  
<211> 370  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-A12  
  
<400> 3831

attcacgggt ccaccacgc gtccgaaatg tggaaatgga agaaaatgag gaagaagttt 60  
tattcacttt taatagacct ttgaaatat acgatgacca agtcattttg caaggaatat 120  
ttcgaaacac aaatgtttcc aacagaagag acgaacatga aaacgtatcg gtttctgaga 180  
agcaagcata ttcaagtaat tctagacagt ccagttagcc aagtcaacat tcttgtcttc 240  
gaactagttt actgtctaga aacactgtag ataatagtat gtttaatagc catttggttt 300  
acctaacaga tgatgtctga ggtcgtcaaa gttacgggtg ataagcagta aaaactgact 360  
gatatgtggt 370

<210> 3832  
 <211> 461  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-009-Q1-E1-A3

<400> 3832  
 cggttcgagc cacgcgtcca ccttgctgct tatcatagac acacgttaac cttggtccat 60  
 tactactagg aatgaccctt cgtaaaccag tctttaccaa agtagaaaaa ctacaaccgg 120  
 ggacacaggg gcacaacttg atcggtcaag tgatgaacgt cggtgaggtt atggaaaaag 180  
 tgagaccgag tgggtgacaaa ctgcaaactg ccgaagtgtt acttgagat gaaactggag 240  
 cggtattatt tacagcaagg aacgaacaaa tcaaactttt taaaaagggg gagtgtgtga 300  
 ccgttcgaaa cgcaaaagtc aatatgggtg gaggttttat tcgttttagta gttgacaaat 360  
 ggggagctat taagccgcct ggaccaacgg aaaagttaca aggaccacca aaagttnaaa 420  
 accattatatt caaacataga atatgaactc gtgtaagaca c 461

<210> 3833  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-B10

<400> 3833  
 ttcaagggtc caccacgcg tccgaaattg agcaatgtac agggaagtat gaccagtaa 60  
 tgaggagtgg agtaaacaga aaaggaagta aaaggaggga atgaaggga gttatggcaa 120  
 aaacacgtgc cagcagcagc ggtaaaacgt gtgtagcaag cgtagagcag aagaacatga 180  
 ggaagaaaga ggcaaatacg ggaaagcagt aaaagaagaa agagaaagga aaaaactgag 240  
 tatcaggaag aaaagaggga gtagatgagg aaagaaagat caaggaagta agagtaagag 300  
 aaggagtaat gtgaatgaaa gcaggaaagt atttgaagaa gagagtgtaa agcgcgtagc 360  
 ttttgcataa tgtcccagcg agtgaaagag gaagc 395

<210> 3834



<211> 449  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-009-Q1-E1-B11  
  
 <400> 3834  
  
 attcacgggt cgacgcacgc gtccgaccac gcgtccggac tacttagtga tcgtatatcg 60  
 caacttaaag ttgagttgga atatgttcgt tcgcacaggg caagacaacg aaagaaaaga 120  
 agacatTTtg aagttcctgt cgtttctctt gttggatata ccaacgctgg aaagagcact 180  
 ttattgaatg ctttgactca tgctcaagta ctagtacaag acaagttatt tgctacatta 240  
 gacccaacaa ctggaagatg tcgactacct ggacttcatg tgcacccoga catccttatg 300  
 acagatactg tcgggtttat ccaaaaactt ccgactactc tagttgccgc atttcgtgct 360  
 accttgaag aaatagctgc tgcagatatt cttttacatg ttgtogatat ttcactctct 420  
 tccttcgaat ctgagcaaca agctgtcat 449

<210> 3835  
 <211> 468  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-009-Q1-E1-B12  
  
 <400> 3835  
  
 agctgcggta gcggtcctac attcacgggt ccacgcacgc gtccgaccac gcgtccgccc 60  
 acgcgtccgc tcttgaagca ctgaagacgt tgaacgttgc ctctcccaac cacaagacaa 120  
 gatctaacac tccaacaact tctagtagta accgaaaaac aacacctgac ttttcggaat 180  
 cttctcgTTa cctctcctct ccatgctcta caaaagatgg aaaagtacga gtcctagaat 240  
 ccgaatttga gaagcacgtt gcaccctttg tgaacatag tgtctctgta tcagaactat 300  
 ctgaaaaact tcatttactg catcaggcat cttctaactg aaactcgaag cgattcagtc 360  
 agtccgaact ttctaaaatc tttcaagcat cgagtagcaa gcttaagcta tattgcctcg 420  
 ctcttgTTca gctaaaatat cttcgaataa aaagggatga tctagttt 468

<210> 3836  
 <211> 396  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-B2

<400> 3836

cggggtcgagc cacgcgtcca cggaagcgtg ggatgaaatg cagagatctc tagagaaagg 60  
caagaaagaa aagaaaggaa gacacagtaa atgagggcgag aaagcatagg aagtgaacg 120  
gattaggaac ccgtgtagtc tatgcagtaa aagaaagaat gagtaagaaa aaagggagtc 180  
attccaccag gggagtaaag gcgcaagaaa gaaacccaaa gcaattgacg ggaatcggaa 240  
aaaggggtgg atcacgtaaa ttaatccgat ataaaccgag aaccttacct ctccaagaag 300  
gtgttgcacg gctgtcgaaa gaacgtgctg tgaagtgaga gaacgtacga gaaagccaag 360  
tgaggaaaag aaggcaagta gagggcggcc cgaaaa 396

<210> 3837

<211> 313

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-B4

<400> 3837

gggtcgagcc acgcgtccag ttcaggttga cgatcctgag aagattgctt gaaactttta 60  
aaacaaactt tggttgtcgc gcaactctct atcgagtttt tgggtatctg cagtcggaac 120  
aactacttgc gtgcatgctc tcgtgatcac tatataaaaa gtagtctctt ctaaaaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa ataagaaaaa aaaaatagaa taaatcacc 300  
taagaacaat tca 313

<210> 3838

<211> 409

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-B9

<400> 3838

acgcgtccga aaatggcggc cctaactgta aggatccaaa ggtagcgaag taaatagacg 60

tttgaaggc gtccagtatg aaaggagaaa cgagtgtagc actgtctagt cgtccaactc 120  
 agcgaaacag caataactgt gaaaatgcag taaactagca gtaggacgga aagaccccat 180  
 aattcttgac tagatagggt tagggaggag agagaatcat gaagtagagg aggtggggta 240  
 agagatgaaa gaccactgca tgaggataag gaatctaact gagtaaggaa aataagctta 300  
 agctagtttg gctggggaag taaagcctaa gaaagagtaa attaggcaag caaaggcatg 360  
 agagaagtat aatagcagaa gcatgcttga agaaaaagaa agagatttc 409

<210> 3839  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-009-Q1-E1-C10

<400> 3839  
 cacgggtcca cgcacgcgtc cgaccacgcg tccggagtcc ctggtacttc taagaacacc 60  
 ccgaaacagg tggactactt gggcgccatt catgtcgcag aagcggcagc ccaagctaag 120  
 gttaaacgtc tcatcttgggt aagctcagca atggtgacta accgaagtcc attcccttat 180  
 ttgttcttga actctgcatt tggacgaatt atgcattgga aaaggcaagg agaaattgga 240  
 gtcacaaag ttcacgagaa aaatccagaa atggcttata ctattgttcg cccaggacac 300  
 ctgataaatg agcctgccaa agggcccaag tcagtaatag ttgatcaagg tgatcgcat 360  
 agttggaggg ttactanagc ggacgtagcg aaagtatgct gtgcttgttt aaaagtcgaa 420  
 aatacgatga atg 433

<210> 3840  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-C2

<400> 3840  
 gggctcgagcc acgcgtccga ccacacgtcc gccacgcgt ccggcagcat gatgaagagc 60  
 gctatgaagt tctttgtatt tagcattatt ttggcaaagtg ttgttcttac tattcaagca 120  
 gcaacgggttt tggagacttt ggagtcactg aaatatacag agtatcttga catggtaaag 180

gctgcaggcc tggactcgaa gttcaacgac tctgctgtta catggactgt ttttgcagca 240  
aacaatactg gagtcaatgc caccttggca ccaaagcact tggttatttc taatatcaca 300  
tctaattgca cgagagagcaa agacattgtg gaatatactt tgtacaacca tactcttttg 360  
tcagatgata ttaagacagg aacaactatc cttaccgccg taaac 405

<210> 3841  
<211> 455  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-C3  
<400> 3841

gggtcgagcc acgcgtccag gaagaagcag agaggggacta tgagcgagaa ggtggatagt 60  
cgagaggggaa aaagcccaga agccaagata aggtatcaaa gtaaagaaag aaggaaaagg 120  
agaagaagag agggtaggct tagaagcagc aaaccagaga ggaaagcggt aaagcatgaa 180  
agaaaagaaa tccgaaaaag aagagaaaaa ggtaagaaag aggaccgaat cagggtaaga 240  
ggtagaggag caagaagaga agagagaatg ctgggtggag tagcgaaaca agagaaggga 300  
agtaaaaggt aagaaagagg aaaggtttac gagagaagga agtagaaaga agagagtgtg 360  
aggcggcgctc ataatagaaa tccgaaagga gtagaagaaa agagagagga gaaaggaaag 420  
gaggagaaaa ccgtactgaa gaccgacaca ggtac 455

<210> 3842  
<211> 334  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-C4  
<400> 3842

cgggtcgagc cacgcgtcca cccaagcgtc cgggaaaacg cgaggtcatt ggatatactt 60  
tggaagcagc ttacagaaa acttgtattg tggaaaacca gttgaggag tggaaaaaga 120  
aactcgatag tctagcagac aattattcgt tgggtacgag agcctatgat gcgagaatgt 180  
ggtcattgga cctcatcgca actattatga gtgtctgttt tgcagttttt ggaatgtttt 240  
cacaattctt tggttattat gtccaattgc ccatttaca tatgggaaat gccagtcagt 300

attacttttta tggcgtgatg ggaggtatatt ccgt 334

<210> 3843  
<211> 439  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-009-Q1-E1-C6  
  
<400> 3843

aaggatccaa aggtagcgaa gtaaataagac gtttgaaagg cgtccagtat gaaaggagaa 60  
acgagtgtag cactgtctag tcgtccaact cagcgaaaca gcaataactg tgaaaatgca 120  
gtaaactagc agtaggacgg aaagacccca taattcttga ctagataggt ttagggagga 180  
gagagaatca tgaagtagag gaggtggggg aagagatgaa agaccactgc atgaggataa 240  
ggaatctaac tgagtaagga aaataagctt aagctagtatt ggctggggaa gtaaagccta 300  
agaaagagta aattaggcaa gcaaaggcat gagagaagta taatagcaga agcatgcttg 360  
aagaaaaaga aagagatttc agaaagggga agaaaattca gctatagaga acaggtgaag 420  
gagaactcan aaagaggag 439

<210> 3844  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-009-Q1-E1-C8  
  
<400> 3844

gaccacagag tccagattgc gctgcaaagg agtgggctgc ggtgaacctt tcaactagtc 60  
ttcttgtaat ttgctgcat ggggtctttcc atctccaagt tattatcgcg tttatttgga 120  
aaaaaagaaa tgagaatcct tatggtaggg cttgatgccg cgggaaaaac taccatatta 180  
tacaaactca agctgggtga aatcgtcacg acgatcccca ctattggatt caacgtggaa 240  
accgtagaat acaaaaatat cagttttacg gtgtgggacg tcgggtggta agacaagata 300  
cgacctttgt ggcgccacta cttccaaaac acccaaggta tcatcttcgt agtggacagt 360  
aacgacagag agcgtttccc cgaagcacgg gaggagc 397

<210> 3845  
<211> 435  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-C9

<400> 3845

attcacgggt cgacgcacgc gtccgaccac gagtccgctt gggtcgaagc tacttatgaa 60  
gagttggaaa gtattttatg gagtgtgatg tgttcacaag atgaattatc tgctcagttg 120  
gcctcttata tggaaaagtt gacagagttg gaaaagacag aacaaagtat agttgtggga 180  
gaaggtcttg aaaaattgac agatgccaga cacttggtga ataaaacaaa gaccaaactg 240  
gatagtgttg ttactagatt agaaagactg cttcttctga cgagtgttcc gtcagtttcc 300  
aagagagaat agttgtatcc atagttttgt gcaagtggga tgtttactgc tctatagtgc 360  
agataaaata gaaaagctag agccgaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 420  
gaaaggaagg gagag 435

<210> 3846  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D1

<400> 3846

actgtctagt cgtcaaactc agcgaaacag caataactgt gaaaatgcag taaactagca 60  
gtaggacgga aagaccccat aattcttgac tagatagggt tagggaggag agagaatcat 120  
gaagtagagg agttggggta agagatgaaa gaccactgca tgaggataag gaatctaact 180  
gagtaaggaa aataagctta agctagtttg gctggggaag taaagcctaa gaaagagtaa 240  
attaggcaag caaaggcatg agagaagtat aatagcagaa gcatgcttga agaaaaagaa 300  
agagatttca gaaaggaag aaaagtcagc tatagagaac aggtgaagga gaactcaaaa 360  
agaggagagc accgaacga 379

<210> 3847  
<211> 444  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D10

<400> 3847

cggtcgtaga ttcacgggtc cacgcacgcg tccgaccacg cgtccgccca cgcgtccgcg 60  
gacgcgtggg gcaggtttgt caacagtatt gccaaactatc gtaccagcag tcggttagtt 120  
atccatgtca aactcagata tattatcctt gtcaagaata taagttgatg caaatcgagc 180  
aatgttgcca gatccctcag ctgaagtgtg tacaatacac gcaatcttgt gttattcaac 240  
aaattcaaca acaacagcag caacaacagc agcaacaaca gcaacaacag cagcaacagc 300  
aacaggaaga gcagcaagtt caacaggaag aacaacaagt tcaacagcaa gagcaacaag 360  
ttcagcaatt gcagtattat ggatagttat tttttatatt tgtgattttc ttgtggacgt 420  
gccaaagtag cacaaaagtt gttt 444

<210> 3848

<211> 442

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D12

<400> 3848

ttcacgggtc cacgcacgcg tccgaccaat ttgtacaatt cttataaacg tggattccgt 60  
accaatggag tatcttttgt atgtattttg tcgattgcat tatgtcgtct cttgattatg 120  
cctttgttgg gttggtcagc gatacagtta ttattgcact ttggaatatt atcggatcga 180  
acggacaata ttcaattggt ggtaatgatg atagaaacg cagtaccatc ggcaacaat 240  
gtggtgatta tgtgtgagat gggtggaacg agtgaagagc ccatttcgtt ggcgttggtg 300  
tggcaattta tattggctcc cttgtttttg acggcaaata tggcgttttt cttgtggtct 360  
ttgaaatagt ttaccaattc acacgttgga tatattggtc atctatgtat gtttgtgtgg 420  
aaaagaataa atccttggtg at 442

<210> 3849

<211> 357

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D2

<400> 3849

ggtcgagcca cgcgtccaga aaatttgtag tgaccttggtg gaccatcgaa aaatatttcc 60  
tcgtcaactc caaactattg attgcgattg agtagagtta tagtgtgcc aactgtggac 120  
aaggtcattt gtttgaagct tcttttggca taacaaaaag ctttcgtccc cggatgcctt 180  
tctgaaagga agaagaaggc tgaaacatag gtaggtgttc actgcagctc aaagtaggaa 240  
aagtgcaaat agatctttat tcatttggtt ggcactacta ctacacatga aatcttggag 300  
acccaccat attcaactag agtctcactg gtagtataaa attctcgttg tgttgcc 357

<210> 3850

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D4

<400> 3850

acgcgtccag agaaaaggct caaacaagag aagtcagcag tggggaaaat tgggcaatgt 60  
acagggaagt atgaccagat aatgaggagt ggagtaaaca gaaaagggaag taaaaggagg 120  
gaatgaaggg aagttatggc aaaaacacgt gccagcagca gcggtaaaac gtgtgtagca 180  
agcgtagagc agaagaactg ggtgtaaagg tcgagtagta gagtaagtgt aaaagggaaa 240  
ggaaaggaga gaaagaggaa agggatgaaa tgcagagatc tctagagaaa ggcaagaaag 300  
aaaagaaagg aagacacagt aaatgaggcg agaaagcata ggaagtgaaa cggattagga 360  
accgtgtag tctatgcagt aaaagaaaga atgggttaga aaaaaagggg atccatccca 420  
ccagggggat taaaggcgca agaaagaaac ccaaag 456

<210> 3851

<211> 307

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-D8

<400> 3851

aaatgatcct agagtaaaac aacgtgaaag tgaccaaatt gttaaagcaa tgttggaana 60



gaatattccg gtcgaatacg tcttgatatcc agacgaaggt catggttttg cgagaccacc 120  
gaaccgctta gacttttttg gaagagcaga agtattttta tccaaatatac tgggagggcg 180  
ttgtgaaccc tatgaaaaag ttcctggaag tactgcgcgga ttgcctattc aagaaggtct 240  
cctttcgtag cttttatgaa aataaagtct tttggtagca cttaaaaaaa aaaaaaaaaa 300  
aaacaaa 307

<210> 3852  
<211> 408  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-E1  
<400> 3852

gggtcgagcc acgcgtccga ggatgttcga gctgctggct ttttgatgca aaaggaattg 60  
gagtattttg aaaaggcatt gaagaacca aagagacctt atttagctat cttgggagga 120  
gccaaagtat ccgataaaat acaactcatc cagaatttat tacaaaaagt ggatgaaatg 180  
attatcggag gtggcatgtg ttatactttt cttcgagtat tatattccat gccgattgga 240  
gactccattt atgatgagcc tggatcacat ttggtagaaa atattatgaa agaagccaaa 300  
gaaagaaatg taaagataca ttttccagta gattttgtag tagccgatcg tatggctccc 360  
gatgcacata cagagatacg tactagagaa caaggtattc ctgagcat 408

<210> 3853  
<211> 436  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-E10  
<400> 3853

gtcgtaaatt cacgggtcca cgcacgcgtc cgaccacgca tccgatgtgg cttgcatttg 60  
tacatgtggg ttgtatacac caaaaacggt ataaaagatc cccaagtact ttatatccca 120  
aaggaataag acttgtatgt gtatccaaaa aagccaaaga aaaaaacgac tggggtttcc 180  
gaccacccga tattcctacg atggaagaga gatatgcagc ggaacttgcc tatgtagaag 240  
aaaagtttgg accaaagaga tatgaaactc ccgaaaaagc cgacgcattg aaaaaaagaa 300

tacttggttaa tcaagagtgg gcgaaacaag aacgcagtca aggcttgaaa caatatcaag 360  
atattaaagt tacgatactc ggagcaactt tgggaattgg tgcgtttctt attccttgga 420  
tatggtgggtt gggttc 436

<210> 3854  
<211> 373  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-E2  
<400> 3854

ggtccagaat taccgggtcg agccacgcgt ccgaggaata tgaggaggag tggctgtctc 60  
tttgctctc caaagggact ttattggaga agattcttct ctacagaata tgattataca 120  
ggaggaactg gaagagaatc cacaggattg tcggcttccg aacaagaagc cagagagaaa 180  
gtaatacgtt tgtatcgata tgcgctaagt agtgtcaaag atattcgcaa acactatcgt 240  
ttaaatgaaa gcaaagaaga tatagctgct tgtattcgag atttatttga aaggcataaa 300  
catgttcaag atcgaaagct tattgatatg ttggtgttca agggacgaca agacatagac 360  
gaagttcgcg ccc 373

<210> 3855  
<211> 306  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-E3  
<400> 3855

ccgggtcgag ccacgcgtcc aggtggttgg tgacgacgac aggtttcgac gtcgacgatg 60  
cctaaacaaa tcaaagatat caaggaattt ctgcttttgg tccgcagaaa ggatgcgaga 120  
gccatcacia taaagaaaaa caagaccaac acgaaattca aagtccgttg cagcagatat 180  
ttgtatactt tggtagtgaa agaaaaggac aaggcgaaca agttggaaca aagtcttcca 240  
ccaggtttga ctttgaaaaa gattgattag aaataaactc tatcgttggt gttcttgtga 300  
tggatc 306

<210> 3856

<211> 261  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-009-Q1-E1-E4  
  
 <400> 3856  
  
 gcgtccatgt aaattcaaca tcatcaaatg ccaaagggag gaaagaaaga ttcttcaaag 60  
 aaagaagcca caagtaaacc tgcagcagca gatgctacaa agacgacaga aaagtctggt 120  
 ccggaagcca agttgaaggg aactggtgca aagaaacaat aaaaagttga ctatgcatgt 180  
 tcctgttatg ttttgtgagt tctgtttgat agtttccagc tattcttttg gtagtgaata 240  
 aagagaaaat tttttatatt t 261

<210> 3857  
 <211> 393  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-009-Q1-E1-E7  
  
 <400> 3857  
  
 gggtcgaccc acgcatccac ccacgcgtcc gccacgcgt ccgcccacgc gtccgggaag 60  
 ctctcttatg tggatgaacag gaagggacag aagaaagtcc agtcaaagta aaactagtaa 120  
 aacctcctct ttatgttggtt acaaccagct gtcttgataa gaaacaaggc atcgaaatct 180  
 tacaacgagc agtagaagcc ataaagacca agattttaga gaagaatggc aaatttacca 240  
 tcaaagaaga gccacgagct atcagcgata gagatgacag actgttggtc cgattaatgg 300  
 atgaattaga agcagagaat cgtgaagtaa gtggtgatga agatgaaagt gacgaggaac 360  
 aagacgaaga aatgatggaa gaggaagaag aat 393

<210> 3858  
 <211> 372  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-009-Q1-E1-E9  
  
 <400> 3858  
  
 cgcgcccgag aaatggatgg aatcgactcg aaaatggcct ataaatagcg tgatcatttc 60

ccctttttgt ttgtttatcg tttgtcaaag tttgggtggt ttcttggtag cagttgtaca 120  
 ttcaacatca tcaaagcca aaggaggaa agaaagattc ttcaaagaaa gaagccacaa 180  
 gtaaacctgc agcagcagat gctacaaaga cgacagaaaa gtctgggtccg gaagccaagt 240  
 tgaaggggaa tgggtgcaat aaacaataaa aagttgacta tgcatgtgca gtcctgttat 300  
 gttttgtgag ttctgtttga tagtttccag ctattctttt ggtagtgaat aaagagaaaa 360  
 ttttttatat tt 372

<210> 3859  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-F1  
 <400> 3859

cggttcgagc cacgcgtccg aggcagttgg gcgtcgcttt ttgtttatta gccatatgcg 60  
 ttgtttcaac aatacaagca caaggctcta gtactcttgc tccaacagga gttagttcta 120  
 ttcttactag tgctgttaca ggcgctacgg gaataccaac tagtttccct agttcggttt 180  
 ccacgggaat accaaccagt gtaccaacaa catcatcttc gattactatc cttactgtct 240  
 tgcaagacaa ccactttgac gatacagtac aagctataaa tgcggcagga cttgactctt 300  
 tgtttaacaa tccttccgct actcttactt tctttgcagc aaatgactct gtatgggtcta 360  
 cttctacagc ttctcaagct ctgagtgtct ttccaaccag tgcacca 407

<210> 3860  
 <211> 369  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-009-Q1-E1-F2  
 <400> 3860

gcgtccaccc aagcgtccgc ccacgcgtcc gccacgcgt ccgagaaaga ggcaaatacg 60  
 ggaaagcagt aaaagaagaa agagaaagga aaaaactgag tatcaggaag aaaagaggga 120  
 gtagatgagg aaagaaagat caaggaagta agagtaagag aaggagtaat gtgaatgaaa 180  
 gcaggaaagt atttgaagaa gagagtgtaa agcgcgtacc ttttgcataa tgtcccagcg 240

agtgaagag gaagcaaaaa gaaagaaaaa gaagtagcca ggtaagaccc gaagctagtt 300  
gatcttatgc tgtccaagcg aagtaaggct gaaccagtat ctgtggaaaa agatttgga 360  
gagatggca 369

<210> 3861  
<211> 404  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F3

<400> 3861

gtccagaatt accgggtcga gccacgcgtc cagaaatatt cggcagcaga ttgtctattg 60  
gatccttctc gagttggact atcttccaag tcgctagtag atgaaattat cgatgttata 120  
gaaggttggt attctagtct gcatagagaa ctgtattctt ccatatgttt ttccgggtgg 180  
acgtcgaacc taacaggtct tttggaatat ttgacggtag cacttggttag aagaatgcat 240  
aaagttaagt tgcttggttc gaatgtagaa gcagaacgac gatttgctgc atggactgg 300  
ggttctatgt tagctacttt tggagagttt cagaagatgt ggctttcaaa agctgaatat 360  
gaagagaacg ggaaaacttt tattcataag aaatgtgcct agat 404

<210> 3862  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F4

<400> 3862

ggtcgagcca cgcgtccatt gaaaataaat atcaacatat cgttctttga ggttcgtaat 60  
aaacgacttt agtaagtttt gtcgctcacg acaaattctt tcaaagtcgt tcttttgaca 120  
acaaactaac ttgaaactgc gcttgtgaat aagcttccaa ggtacctttg gtttccgcaa 180  
cggcggaagc aataaaaagg ctttctttct caccgccatt ataacgccac cttttggaga 240  
atctctgaaa cattccaacc cgcagaacaa ctttcagtgt cgaatgccag aggatacatt 300  
agaagacttc tacttcagtt atcatcattt ttcgagaatc aatttgcaa aacttgtaat 360  
aactgcaggc aaagcaacag taaatgggtca tgac 394

<210> 3863  
<211> 442  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-F9

<400> 3863

ttcacgggtc caccacgcg tccgaatttg agctcttttg gaagcatgac gtctatttgg 60  
gaggcatcca aacaactcct ttatcattac aaaaacacag ttccttacca cttaaagggtt 120  
atcgacgctt ttctcttgta tgtcttttct actgctgcc a tccagtttgt ttacgtcttg 180  
ttcgttgga cctttccttt caacgctttc ttggcgggtt tcttctcgtg tgctggagtt 240  
tttgtgtga cagtggcctt gcgcagcaa gtgaatccgc ggaatcagaa cgcagccaat 300  
cgatgggaaa aagtgaaccc ctaccgtgct tatgtagaat ggctgttttg taacttgatt 360  
ttgcatattg ctgtaatcaa ctttattgga tgagagaata gtacgcgacg atataaagtt 420  
atgacgatgg acgtacact gt 442

<210> 3864  
<211> 350  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-G1

<400> 3864

gggtcgagcc acgcgtccga gaagagcgtg cgtggaggat ggatccggtt atgcactaat 60  
ttgggaaaaa cttgttttat cagcaacaga tactgccaac gcgcgttcgg tcatagtaat 120  
gaaagacgat gtggacaaga tattggagct ggatagtc aagaccttag ctatgggtgg 180  
ggagccaggt gactttgtgc agttcacgga gtatatacaa aagaatcttc acctttacga 240  
attccaaacg ggattgcaac taagtactca cgcagttgct aacttcatcc gtgggggaat 300  
tggttagatt gatacgggga agccccgtat taaccaaact acttttgggg 350

<210> 3865  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-G10

<400> 3865

ggtcgaccgg acgcgtccga ggacttgtgc gtacgggtgtg tgtgtgtgtg tgtgtgtgtg 60  
taacaactat cagcaccaca aaaagatggg tcgtatgagt gtattagccg atgctttgaa 120  
atccatcgcc aatgcagaaa gaagaggaaa gcgtcaagtt ctcacccgcc cgagctccaa 180  
agtcatacata cgcttcttgc aggttatgca aaaacacgga tatattggag agtttgaata 240  
tgtggacgat catcgctcgg gcaaactcgt cggtcacttg ataggcagat tgaacaagtg 300  
cgggtgtgata tcaccacgat atgacatgaa agtgcacgaa gtagagcaat ggatcaataa 360  
cttgcttcca agtcgacaat tcgggttcgt agttttgaca acatcgtatg gtattatgga 420  
ccacgaag 428

<210> 3866

<211> 406

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-G12

<400> 3866

gtcgaccgac gcgtccgaag gtaacaaagt aaagaaagaa ggaaaaggag aagaagagag 60  
ggtaggctta gaagcagcaa accagagagg aaagcgtaa agcatgaaag aaaagaaatc 120  
cgaaaaagaa gagaaaaagg taagaaagag gaccgaatca gggtaagagg tagaggagca 180  
agaagagaag agagaatgct ggggtggagta gcgaaacaag agaagggaag taaaaggtaa 240  
gaaagaggaa aggtttacga gagaaggaag tagaaagaag agagtgtgag gcggcgatcat 300  
aatagaaatc cgaaaggagt agaagaaaag agagagaaga aagaaaagaa gagaaaagcc 360  
gtactgaaga ccgacacagg tactcgagga gaaaggagac ccaaat 406

<210> 3867

<211> 390

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-G2

<400> 3867

cgggtcgagc cacgcgtcca cggaagcgtg gggagcatgg tacgagaagc tttattgcag 60  
 tcggaaggcg ctcggttgat tcaacaaatt tatcggttgc ttcaacaaac caaacgagtg 120  
 caccgagttc ctgaagagtt gattctggat acggttaagat agatgaccc tttttctgat 180  
 ggatatgtat acatatatac tgctttttcg tgtttttggt gtatagatat tagaaaaaca 240  
 tttttcacct gcagaatctc gcagacagtt ggaagtagcg ataggttaga aagtgagtat 300  
 gatataattg taatatactc agaataggag atagaatggg gaagatatgc ggaactcttt 360  
 ggctatgatg caccgagtgg cgaactgttt 390

<210> 3868  
 <211> 335  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-G3

<400> 3868  
 ggggtcgagcc acgcgtccga ccacgcgtcc gggcgaaaac accccgacat aagtccgtgg 60  
 acaaacttta aggcttgctt tactgggtttt ggaacagctt tggcactttt taccggttat 120  
 gttgttttag aacaggctta ttactatttt tacaagccta cacagacgca agtccccgag 180  
 acgaaatcgg aagaacttgg ctctgagtt tcgtgttctt gtaaagttgg aacctcacgt 240  
 ctatccctac atggtgtcaa agacaggcca ctgataaggc taaggttttg tcttcgttcc 300  
 ttggggccaaa gtaataaaga gtgttatgtt ttctc 335

<210> 3869  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-009-Q1-E1-G9

<400> 3869  
 ttcacgggtc gaccgacgcg tccgcaacta tccaaaggac gagatgagtt gggacaacga 60  
 tggacagcgc ctttgacag gcaaagactt tatagaatat gtcaagttga gatggggaaa 120  
 tcctttatatt cgtagaaatt gctgttggtg tagtacaggc agtatagtat cttgtgacac 180  
 tggaaagggtt ttacagagtt gggtttcgtg tgagttgttg agatcaatag tacgattatt 240



taggtcgttg cactgcttga agggttagaa ttaggaatgg tgaagagtat atcccaacca 300  
tctagtaatc aagcaacagt agaagctcta gtttcctcga aaaaactgta ttttctcaag 360  
gatccagtaa caggaaagta ttggaccgaa cgagattcca nacgagtaaa tccaatgttt 420  
tatactcagc aagataca 438

<210> 3870  
<211> 349  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-H1  
<400> 3870

gggtcgagcc acgcgtccag ggaatcattc caccagggga gtaaaggcgc aagaaagaaa 60  
cccaaagcaa ttgacgggaa tcggaaaaag gggtggatca cgtaaattaa tccgataaac 120  
cgagaacctt acctctccaa gaaggtgttg cacggctgtc gaaagaacgt gctgtgaagt 180  
gagagaacgt acgagaaagc caagtgagga aaagaaggca agtagagggc ggcccgtaga 240  
gcagaagaac tgggtgtaaa ggtcgagtag tagagtaagt gtaaaaggga aaggaaagga 300  
gagaaagagg aaagggatga aatgcagaga tctctagaga aaggcaaaa 349

<210> 3871  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-009-Q1-E1-H2  
<400> 3871

gggtcgagcc acgcgtccgc aaggaagaac agatggaagc cacaatagaa ttggtggtaa 60  
aaagtaacct ttctaaccaa atgagacttt ttgaatggaa agctgaacaa gttgttgtgg 120  
cagtagaatt accacaaagg cctttgcaag tcaaagtcaa gtcattgcaac ggaggaaagt 180  
ggaaatggtc caaagaacaa agtttggtttt tttgggagtt gaagaaagct tcttcagata 240  
gagaatataa attgaatgca gatattgtat ttgatgctcc tttggacaca agaaaaacac 300  
tgtatagtgt gatagatgtc cattttgtta ttcctgatga aaccttgaca ggatttagta 360  
tattaagttt gttggtgaag gagccaaaat tggact 396

<210> 3872  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-H3

<400> 3872

```

gggtcgagcc acgcgtccga ttcaagtgtt gcaactagaa aacaccctag caagttgttc   60
aagttggcac tctcgtccat ggcggcaaac ggaaagattc gggtgaaaaa cctgtcgtc   120
gaactggatg gggatgaaat gacccgcatt atatgggtcat tcattaagaa caagctcatt   180
ctcccatatc tagacatcga cttgaaatat tatgatctag ggttaccaa cagagacaaa   240
accaacgatc aagtgcgat agacgtgca cacgctatcc agcggtagaa cgtcgggtgc   300
aattgtgcga ccataacgcc tgatgagcag cgagtaaaag agtttaattc gaaaagatg   360
tacaaatctc cgaacgcaac gattcgtgga atcttgaac                               399
  
```

<210> 3873  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-009-Q1-E1-H9

<400> 3873

```

attcacgggt cgacgacgcg tccgaccacg agtccgggac agcaaccaca aggagcagca   60
gcagatgatg atgcaatgta tcccattat catttatgta taccattgc agagtttcaa   120
aaagcctatg aacgagtcga agcactgggt ttgctgtaca atgaccacat attttccgat   180
aaagtttata gttatcaaga tgcgttggtg cacaatcagt ttcgattgcg agatattctt   240
gatttggaag cacatggtaa gtggtggtgg ataatggagt agaagagatt gagtgtgtgt   300
aaaagctcgt ggacaacgcc gcgtgttgta tcgattgcaa ttggaaacgc ggagtttata   360
tcatccgttt ttatgcggc cattggtgaa tcccatgggc caagtaagaa ttattgttt   420
tcaataatcc aataaaaa                               438
  
```

<210> 3874  
 <211> 376

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-A2  
 <400> 3874  
 cgggtcgagc cacgcgtcca cggaagcgtg ggcggacgcg ttggccaacc agggatctcg 60  
 gggccgggtac ctgtttgCGT gacgaattcc cctatcaaga gtcgtaaact cagtccagtt 120  
 aaatatggaa ggctcagaat caaattcaac gtcaaattcg aatatccgca cacgttaaga 180  
 ttaccatgac atccattgag catcacattt cttttacaaa tgcataaac tctagctcat 240  
 ttacctgctt atttcgaaaa cctattacac ttaattcgag ataggtacaa actgacgttc 300  
 atcatatgtt accattctaa cttgaaatac acagctttta cggcaggtat acaagcagta 360  
 gcaaaatata attcct 376

<210> 3875  
 <211> 333  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-A5  
 <400> 3875  
 aattacgata tccaatgaag gaacagcaaa gagaaagtcg ctacgagtat acaaaatata 60  
 caataaaagt tccaagagga gtcctcttta gaccaacgtt tcagctcctt gttacctttt 120  
 tgaacattct ctaaactata taaggcatca tgatatagag attcgatttc ttcagcctgt 180  
 tctgataact ttgtggataa aacctgattc agtgcagcta tttcaacagc ctgtttttct 240  
 acagtcttga cttgctcaag tgtctccatg agttccacta acaaggcttc attctctcct 300  
 tccaataaaa gctgcttccg gtcttggtt tcc 333

<210> 3876  
 <211> 368  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-010-Q1-E1-C1  
 <400> 3876  
 cgggtcgagc cacgcgtccg cgagtcggtt ggtaagttat gtagccaaga ctgggtttga 60

aggcaccgtg gaagtagagg cgatgaacgc tttacaagtg ggacaaattg agaaaaccta 120  
tgaaggccta actagtttac agcgtgaatt ggatagtgtc cttgctagtc agtattatTT 180  
gagaactcgt ttgatgcggc atgaacaaac ggtgatggct acgaatagag cagttttggT 240  
atTtctgttg ctcaaaacgc tgtttgttgc ttgtctagtt gctgtcaaT tgtatTttgt 300  
gaagcgtttg tttgacgac cgaacgcgt acgcatgaga gtataataaa gccattgttg 360  
ttttggtt 368

<210> 3877  
<211> 304  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-C2

<400> 3877  
acggacgcgt gggaaatttc aatggaggag ttgcgagctc agttaccaag atatcaaaga 60  
cagatgatat cgtcgtcgtc gtaattcgta tctatgcttt aagttttcat ctttttgcta 120  
acacgttggT tgagtgttag aaagcatttg ataaatttcc cgcgaggaat cctacttggg 180  
acgtgtcctc caatgctgca gagagctatt cggtatgtct gtttattgct tgttttcata 240  
agagagagag agttggacat cgaataaaga aaaaaccaca caaagtggaa caacataaac 300  
aaaa 304

<210> 3878  
<211> 398  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-C3

<400> 3878  
acgcgtccga ttgaacttgg agcttttaca acctgctcta ctcaatatcg atccatcatt 60  
caacactaca aagctgctgt atgacaacga cgatggtttc cggcaacaac tgcagccaac 120  
cacagcaagt tgccactttt tgtctcctcg aaagagaaaa ctacttcatg catgtgcaaa 180  
aggaaacatt gatacagtta gggatctgat tcaagacgaa aaagtctcac ccaactttta 240  
caactatgac aagagaacgc cactacattt agcagcagct gaaggacact tggaaattgc 300

acaaatcttg gtagaagctg gagcgtcttt aactacttat gatagatggg gatgcacacc 360  
tctcttcgac gctgttcacg ggaaacatca aagactga 398

<210> 3879  
<211> 372  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-C5  
  
<400> 3879

ttcccggggc gaccacgcg tcaggaaaga ggatagggga gtacatagat gaggagtgtg 60  
ggaaggagat agaagaggaa tggagaagat gggagaggat aaagcagagt agagaagagg 120  
agggagtaga agaggagttg aagttatgga aggaagagaa taaggagagg atagaaagaa 180  
tgaataaaag aatggaagag tacttaagga ggaggataca ggagagaatg aggaagtact 240  
tggagcagat agaaaaggta gataggagta tagagttaga ggaagagaga gtaggagagt 300  
ggaagatgag tgaggaggag atagaagaag gcatagaagg aaaattgggc aatgtacagg 360  
gaagtatgac cc 372

<210> 3880  
<211> 414  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-C8  
  
<400> 3880

ggtactagtc aggaattccc gggccgaccc acgcgtcagc ggacgcgtgg gcggacgcgt 60  
ggggctttac tttatttcg ttgttgcttt tgggtccgtac ggtggcagtg ttccagggtc 120  
ctttaagcaa tgcttgattc tagtgcagtt ttccgataac ggagtatgaa gcttagtatg 180  
catatgtttc cagacactga gtatcttgaa gtcttctgct taagttgaaa ccaagttaag 240  
aaacgtcttt aagttttcct attcttgatt gttcttatta gccctacaag ctgttttagaa 300  
attaagagaa gcttagcttg agggaaaagc attctgatgc gacggttctg aagccttggc 360  
gaaggaaaga catcgccttc cccttacaag acactaccta aatgcaacag aact 414

<210> 3881  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D1

<400> 3881

```

gttcaagaat taccgggtcg agccacgcgt ccgcaaactt cagagtatag agaactcggg    60
gaaagtggta ttttagtcag tcctcttggg tttggggcct cccattagg tggagtgttt    120
ggtcctgtga gtgaagaaga aggtattaga gctgtacata aggcgtggaa agagggcatc    180
aacttttttg actgttcgcc ctattacggc ttacaaaag cagagaaagt attgggtctg    240
ggtttgaagg accttcccag agagtccata gtggttgcta cgaaagtagg aagatatgga    300
ccttcagaat ttgacttttc agcaagcaga atcgagcgca gtgtgaaaga gagcatggaa    360
cggttgaacg ttagctattt agacgtcgtt cagtgccacg acattgagtt tggcgatctg    420
aatcaaat                                         428
  
```

<210> 3882  
 <211> 410  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D12

<400> 3882

```

aagatgaggt atagagaatg gcggtcctaa ctgtaaggat ccaaaggtag cgaagtaa    60
agacgtttga aaggcgtcca gtatgaaagg agaaacgagt gtagcactgt ctagtcgtcc    120
aactcagcga aacagcaata actgtgaaaa tgcagtaaac tagcagtagg acggaaagac    180
cccataattc ttgactagat aggttttaggg aggagagaga atcatgaagt agaggaggtg    240
gggtaagaga tgaaagacca ctgcatgagg ataaggaatc taactgagta aggaaaataa    300
gcttaagcta gtttggctgg ggaagtaaag cctaagaaag agtaaattag gcaagcaaag    360
gcatgagaga agtataatag cagaagcatg cttgaagaaa aagaaagaga                410
  
```

<210> 3883  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D2

<400> 3883

gggccgaccc acgcgtccag gttgtttgac cattggacaa tccattatct ttgtgcacac 60  
acgcgcaagt gccaacgaat tgaccaagag acttcgagag gaaggccata ctgtatcttt 120  
gttacacgga ggagatatgt cacctgaaga acgggatcgc gtgattgacg agtttcgacg 180  
tggaactacg aaagtattgg taacgaccaa tgtattggca cggggagtag atgtattaca 240  
agttaccgta gttgtcaatt atgatttgcc actagatgtg aacaatcaac ctgatccaga 300  
gacttactta catcgagtag gaagaactgg aagatttggt agaaagggtc ttgctatcaa 360  
ttttgtgtat gatcgataca gtttgaagca gttgcaggac attgaaaaa 409

<210> 3884

<211> 281

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D4

<400> 3884

cacgcgtcca cccaagcgtc cgggtgggtat tgcgactcat ggccatgctg ttggtaatgt 60  
gtgtctatag aagaagtcta ttgtgggaaa ttcgaggaat gcttttttaa aaaaaaaga 120  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
aaaaaaaaa aaaaaaaaaa agggggggccg cccaaaagga tcaaaactta cgtacacgtg 240  
aaagcaaagt caaaaccctt caaaagtgtc accaaaatta a 281

<210> 3885

<211> 402

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-D5

<400> 3885

ttccccgggcc gaccacgcg tcagcgtaca ttgtccagtt tgctttttct gttgtagtca 60  
ttgctatgtt ctcccaagtt accttttatc tataccgtga ctttaagtgt gctttcgatg 120  
ggcattggga ttacgccacg catagcgaag tgtctgggtcc tgtgggttat tgccgttact 180

tcattgcttt ggggagcatt tccatcgtag ttttagctat tgttgccgta gctacttttg 240  
gaacgctgta ttttgaagtt cctatggact atatctttta tggatgaatgg gggatcaacg 300  
cttttctggt tctgtggtgg attatcggtg cttctctcat tactgctaaa agaccttcgg 360  
atgagttgat gcaaagtgtg aacaacttgc gtgaagttgt tg 402

<210> 3886  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-D6  
<400> 3886

ggtactagtc tagaattccc gggccgaccc acgcgtcagg gacgttattt tgggtgttgg 60  
aggaaataaa accgaccaa ccgaacgtag acaagtaagt acggaagaag gagaagccaa 120  
ggcaaaggaa tatggaatta tgtttatgga aacgagtgc aaagctgggt tcaacgtcaa 180  
agcattgttt cgaaagattg cttctgtatt gccaggaatg gaaaacgtac cagagcctac 240  
aaatatgcaa atggtggata tcaaactcaa ctccaacaca gaaacgacga cgactagcga 300  
gtcgaatcag acgcaacgat gtcgttggtta gagcgagatt ggatggtgta caagtaaaag 360  
ttttcagagt cttggttttc cacggaatg 389

<210> 3887  
<211> 406  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-D7  
<400> 3887

ggtaccagtc tagaattccc gggccgaccc acgcgtcagc agaaatacaa gaagaaagcc 60  
tatagaggcg acaagaccat gacgcaaact ttttggaat cgctgcacaa cagcaacgat 120  
aaaggcggaa gacaaacaag gcgcaacaac tacaagagct attcctacta ttaggggttaa 180  
tgtcatagtg tcgcgataac cctcgaatgg ttcagaagga aactgatcaa taatatttgc 240  
caagtacgcg tttaaacctg cagctggtgc cagtgtgaagg ggaagattgg taaagagtcc 300  
gattaggata gagccagctg ctctgtgat agctgtcgca actgctactt caaaactcgg 360



tacggaagct tttgtggaga ataattgaga gttgagaagt taaaca

406

<210> 3888  
<211> 223  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-D9  
  
<400> 3888

accacgcgtc cgcccacgcg tccggaaggt tttcggttatt ggaacgactg attcgtcagc 60  
tgaggagtgc tatggacaca ttatctgaac tttccgattc caacaaggaa aagaaatgga 120  
gcttacatga ttatgttatt tgagaagata tatgttttgt aaacgaacaa gaagctcttt 180  
ctacttgtaa atatcgagtt attcgatgaa tatttttgaa aaa 223

<210> 3889  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-E4  
  
<400> 3889

gaccacgcg tccaccacg cgtccgcca cgcgtccgcg gacgcgtggg cggacgcgtg 60  
ggcacttggt gaggtagta agcacaattt ggggtgttgt ttcaagcttg tcttaaacc 120  
gtgggagtaa aaacgacgaa attgaagcaa gctagaacct ttaccatata atggaatcaa 180  
ctcagtgaat gcaagcacia gaatatgcca agattactct gttttacttg ccttggtcag 240  
tcacgttat cgcacaacta tggttatttt gagcaaggta cgatgcagag cctcgtggaa 300  
atttgtttaa aatcaaata cgtgtagaac acaattattt tcagcaagt cgcaccaagt 360  
ggaaggaatt gggaaaggat gttca 385

<210> 3890  
<211> 281  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-010-Q1-E1-E8  
  
<400> 3890

ggtacaggtc cagaattccc gggccgaccc acgcgtcagc ccacgcgtcc gccacgcgt 60  
 ccgcccacgc gtccgcccac gcgtccgccc acgcgtccgg agatgtattg cagtaactac 120  
 aagtttatcg gcagatcatt tccaatcggg gagtcctgat gtgatcaaag aacatccggg 180  
 agtcattacg attgccgata ttttgggggt tgagaattta cagggatctt gtaatgacga 240  
 cgacgacgag gacgaaaaac aacaataaat gggttgccggg t 281

<210> 3891  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-010-Q1-E1-F4  
  
 <400> 3891

cgggcccacc cacgcgtcca cggacgcgtg ggaagaagac gagtcaatgg aaagcaaadc 60  
 ggtggaccaa aaaggcaatg caatggaaca agtagaatg gaggatactc atcaagtttc 120  
 agacactggt gttgctcatg gagaggcgtc ggataccag ttgnaatgg gacgatcaac 180  
 tctacccgaa aaacaacaac aacaactacc accgccaatc gaggaacaag aaacgcgaaa 240  
 taatctaggc gaacagtcag agtcaactag ttgcatcggg gagagcacag aaagctgtaa 300  
 tatagcacca aaagctgaca ctataagcct cccaaacctc cgtagcgatg caacttttat 360  
 taagaacatc gtcagaaat tgtgcactgt taat 394

<210> 3892  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-010-Q1-E1-F7  
  
 <400> 3892

ggtaccagtc tagaattccc gggccgaccc acgcgtccac attatgtatt attcgagtgt 60  
 tatctttaca caaacgggag tctctacaaa agatgctata ttggcaagtc ttggtgcagg 120  
 aatattaaac tttttatttg ctcttcacgc cattccaacg atcgaccgat ggggcagacg 180  
 tcctttgttg ctatggacat tcccactcat gagcatcttt ttattatttt ctggcttttc 240

cttttgggct tegtctagtc atactcgttt gggattgggtt gctgctggta tttatctgtt 300  
tatgattgtt tattctccag gagaaggacc tgttccattt acttattcta gtgaagtatt 360  
tccccctttat attcgtactt ggggaatgag ctnttgcacc gcaacta 407

<210> 3893  
<211> 304  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-G11

<400> 3893  
aagaggcaaa tacgggaaag cagtaaaaga agaaagagaa aggaaaaaac tgagtatcag 60  
gaagaaaaga gggagtagat gaggaaagaa agatcaagga agtaagagta agagaaggag 120  
taatgtgaat gaaagcagga aagtatttga agaagagagt gtaaagcgcg taccttttgc 180  
ataatgtccc agcgagtgaag agaggaagca aaatataaaa aaaaaaaaaa aaaaaaaga 240  
aaaaaaataa aaaaaaaaaac gaaaaaaaaa aaacaaaaat aaaaaaaaaac aaaaaaaaaa 300  
caac 304

<210> 3894  
<211> 289  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-G2

<400> 3894  
aagcaagaaa gtatttgaag aatagagtgt aaaacgcgta acttttgcac aatgtctcaa 60  
ccaattaaag aaggagccaa aagaaagaaa aagaagtatc caagtaagac cccaaactaa 120  
ttgatcctaa gctgttcaaa ccaagttaag gtgaaccaat aactgtggaa aaagattttg 180  
gaaaaattgc ataaaggggtg aaaggccaat caaaactaat tataactggg actcctccaa 240  
agctaaataa ctaacgtatg caagaaagaa gaaagtaaaa gaatagaaa 289

<210> 3895  
<211> 374  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-G4

<400> 3895

gggccgaccc acgcgtccac ccaagcgtcc gcggaacgct gggttgtcaa ggaaaaaatt 60  
acttgaaacc cggagaaaaa caattgggga ctgggaacaa tccaaaacat ttggaaaacc 120  
ccgttaaatt ggccaattaa aattggaatt gcattcccaa accaattggc atttaaggga 180  
gttcctaagg gggccaagct acattgggcg gggccctatt tactccagaa ctttattctt 240  
gtggagtaga tattgttggc cttccaact tgaaaacatt attagatagt gttcctgatt 300  
attggaagcc gatgaagaaa gaattactgt tgagaattgg tcccgtagac accgacgaag 360  
aattcaatca aaag 374

<210> 3896

<211> 326

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-G6

<400> 3896

ttcccgggcc gaccacgcg tcagcagttt actgcaatgt ttcgacgcaa agcttttctt 60  
cattggtata caggagaagg aatggacgag atggagttaa cagaagcaga aagcaatatg 120  
aacgatttgg tttcagaata tcaacaatac caagaggcta ctgctgaaga cgggcttgac 180  
gtggattttg aagaagaagc gttttaagct ttgtgtcaat acacacaatt ccttggatat 240  
cgcctcgacc tttcatttgc aaactattca gaataccgtg actatttctc cgcaattcag 300  
tgatggataa agaaagatgt ttttag 326

<210> 3897

<211> 400

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-010-Q1-E1-H10

<400> 3897

attcacgggt cgacgcacgc gtccgggatt gaccaagtgt gagaagcaaa gtcaatggaa 60  
aaggaagagg aaaggcgaag aaagtagcga ataaatctag agtagaaagc tgtgagagga 120

aagaggtgta tgatgcaggc aaagaagtga cgcagtagat cagagagtaa cacatgcaag 180  
taggttaaagc gaacgggtga gtaaagaggt gtgaaagagt ggaagaacat gaaagcacag 240  
aagaaagatc aaggaagtaa gagtaagaga aggagtaatg tgaatgaaag caggaaagta 300  
tttgaagaag agagtgtaaa gcgcgtacct tttgcataat gtcccagcga gtgaaagagg 360  
aagcaaaaag aaagaaaaag aagtagccag gtaagacccg 400

<210> 3898  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-010-Q1-E1-H5  
<400> 3898

gtacaggtct agaattcccg ggccgaccca cgcgtccacc cacgcgtccg caaccgtttt 60  
tcgcagctcc aaccagcagc atcagtcagc ctacagtcgt tttcaacggg ccacttttga 120  
ctgcagcacc aactttcagt cctttttacaa ctgctgttcc tagtttcagt tcaggagctg 180  
tttccagtgg attcccatca ttctctcccg ttccaaccag taccttttca agtgacgtga 240  
atggaaatac tctttccaca ttttcttcgt ttccggcacc aacttcaact ataccgatac 300  
aaacaactat ctttttctaa gcaggtagaa caagaagttc gatgagaatc acaacagtgt 360  
ctgatataata gaaaagattg gattgtgttt gatgacacaa aatatcatcg tgcaaagtca 420  
aaggacttta aaaagttgcc ttttaatttg 449

<210> 3899  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-011-Q1-E1-A2  
<400> 3899

gtccacgcac gcgtccgaag ctcttcctta tattctttgt gcttggacaa tggttgcaaa 60  
gactgctctg agttgcctct ttctctcttt ccttatcgct gccgcagttg cagccgacgt 120  
agtttcagat gacagatggg gatatgctca gcaaactcaa caacagcaac agtgccaaca 180  
agtatgtaaa cagtatgcat actatcagag tccagtctgc acttccgtaa ccacacagag 240

cccatactgg acccaatgct cgaagactgt gcaaacccttt gtcccaagcc agtgcagtac 300  
 ttatacccaa tctctacat ggacctattg cagcacctac accaccacta gcgtaccatc 360  
 tcaatgcagc aaggccgtga ctacctatac tcaaacctgc tgtgcttatg cccaacaaac 420  
 ttcctatgc 429

<210> 3900  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-B3  
 <400> 3900

gtcgaccgac gcgtccgagg acgcatgggg gttgttgtgg ttgcgagatg gtgtacagtc 60  
 gtttgtcctt gtcttttaac gtcacattta cttttcaaag taacgttgct tcaaattttg 120  
 aagcaaagtt tagttgtaaa acaagaaaaa cttttatagg ggaagggttt ttacatgttg 180  
 gccctctttt caaacagagg agctttcttt accaatgcaa gcagattcca cgttgtgaac 240  
 ttgttgcgtc ttacaaaaac gacgagagta caaaagatga agaatcgta agttttcact 300  
 gggctaagat ttttattcct gacagtatga aaattgacaa caaatatgcc aacgtgtggt 360

<210> 3901  
 <211> 163  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-B5  
 <400> 3901

tcccggtgcc acccagcagc tccgaacacg cgtccgataa tgcaaatata gggcgggcccg 60  
 ataaacgaga tggcgtagca cgtgatacac actttgcaca atatcgacca tatctaaatt 120  
 cgatgtaaaa gctacattca acgactagaa tatgttcaga att 163

<210> 3902  
 <211> 456  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-B6

<400> 3902

gtcctacatt cccgggtcca cccacgcgtc cgaaccacgt tggtaaagat agacttgtct 60  
caaggcagct ttaaagtact ccaagactgt gacagagatt tagaatgtga tcataatacc 120  
aagtttcagt tggaaacttat tcagtatggc ctcttttcac ctgggttttg gacgagagaa 180  
aatgttctgc tcttctatatt ggagctcgtg tcaggtgtat tcataaggga cactctccac 240  
cttttctaca acaaagggtga agaacatctg tttgcgagtt taacgctggt gttggagaca 300  
caagtttcac tggatgcaga cataaaagca aactgggaga aacgacactt tatcggttgc 360  
ctcaacgtca tgtctttgtg tgacgaatat caacgacagt attcaaaact atgttcaccc 420  
aatgaaagc acgattcata tgccaccaat taacag 456

<210> 3903

<211> 378

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-B9

<400> 3903

cgattcggag agaaaagaac tgttatcagt gatgagagaa aatgcaacag aacgactgca 60  
gctgggctaga attcagggag cttacgttcc acccgccaga atgccgattt ccctgtcctt 120  
gaactatcta catccgaacc cgtttggaag ggattcacga tatgaggaat ttcaaccaga 180  
aaaagaaaag gtgaagtttg atcctggtaa tacaaggaga ggtgggtatca tggaagccat 240  
gttgggggga aaagataaaa tgagaaatgg gattaccagt agaaaagggt ctcttggtc 300  
tactatgggc tccaacacga aagctattaa accgggaaaa ttacaataaa aaagtagcaa 360  
ctataggatt aaaacaaa 378

<210> 3904

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C1

<400> 3904

gtcgaccgac gcgtccgcac acgcatccgt ccttgtagaa aactatgaag tctttcggaa 60

ttgctattgt tttcctaagc tttgttattg catcttatgc agcagttgta tccgaaatgg 120  
 catccaatga gtttcaaaga ggaggatacg ctcttctccc ttccaaggaa tgctgcatga 180  
 ccacttgta atatgcagaa ctttgcccaa tttctcaacc aacttatagc caagctccat 240  
 cttacattcc atctctacc tatggccaag ctcttccta caatcaatat tcttcttcgt 300  
 acggttcctc tagctatcgt ctcttaactg cagacgaaaa ccaacttggt agcagaggag 360  
 gttatgcacc aacaagccaa tgtattctag ttcctatcca atgctgcact gattgcaaac 420  
 aa 422

<210> 3905  
 <211> 313  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-C12

<400> 3905  
 tcgacccacg acgtccgaaa caaaatacgc cgggtgttga tgttcctctg gcctgactat 60  
 ctttggcgaa taagctttga taggattttc gggtagtggg ggtataagtg attgtggcct 120  
 ttttttgtgt tttgtgttgg atgtcgaata aaaaaaaaaag gagtgagaat gaacaataaa 180  
 aaaaaaatat aaggaaaaaa aaaaaaaaga aaataaaaaa aaagacggga aatgaaacaa 240  
 aatcctcata acaaaaacaa gaagtaaaag aaaaaaaaca aacagtaaata ttcgcttaaa 300  
 aagtatgttg gtt 313

<210> 3906  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-011-Q1-E1-C2

<400> 3906  
 tattactgtc gtgggttggg tatttgctat gggtattggt tgtgggtgct ttgcaggttt 60  
 gaggangaaa agttgttttc cgaataggag gcgtcgcggt tctcgcgagg cgctgcnac 120  
 agaacatgga gttgcttcgg caaacgataa ctatagttcg cctccttttg tatttatgta 180



taatgtctac ctgccacgtc ttgatacaat agcgcctgaa atagtgtacg gaagccaaga 240  
 atcctttctg aaacaagaac gacagttgaa aaaacgcttt gtgaagcctt acatgtccca 300  
 gccggtattc aaacaagacg aagaagagga tagtttgtcc ct 342

<210> 3907  
 <211> 342  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C5

<400> 3907

gacgactggc gatgaaaacg acttgagac cgacatgggc acttatccat cgactttatg 60  
 taaaaaccac aagtagaatt gttcatcaac caaaactggg ttttcaaaca agcccttttc 120  
 aaacgtccct ttttgtcctt tcgtctgctg aacaagaaca aggcgggtcc tcgaaaagtc 180  
 gccagtctca tgcttttggc tcctttgcta ccgtagcagc cactgtatgtt ggtaccattt 240  
 atatgacgtg tcccattttg aaagcagacg atgagactct agagcctcca aaataccctt 300  
 ggaaccattc tggtcctttg tcttccttcg atgccgctgc ca 342

<210> 3908  
 <211> 256  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-C7

<400> 3908

ccgggtccac ccacgacgtc cgagaactcg agtccttggt gaaagaacga gatgctatgt 60  
 tgaatggaac aagtgaagaa tacttgagtc aattggcgcc tttagagaat gaaaggaaac 120  
 gtaaactcga tagagctatg gacttttata aacttcaact acaatatgca gaacagctgt 180  
 atgagttggc caagaaagaa gcatatgata gctttcaagc acacaaggca gatcattgag 240  
 aacatatgtg gcgtat 256

<210> 3909  
 <211> 423  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D1

<400> 3909

gtccaccac gcgtccgaac caaagcgccg gtggcatttg cttgaaactt tactaagaaa 60  
caacttatga gcgacagtgc ttccattgga gaaacaaaga gtgtagccac tttgttttca 120  
ttgggtttta aaactgttcg aaggcctcgc gcgagagata gtgacgattg cacgctttcg 180  
gaaggagagc aaccgaaaaa gaggaatgc gtcgagttgt cgagctattc aagtgatctt 240  
ggtctcaatc ataagaaact ggataaagcg aacaacttct acaagctaag gcaatctatg 300  
gatcatttct cgttttccga cgaaaacca gaggaagcga tggaagttcc ggcgtctcct 360  
gatagaacac cggaaggca aattttttcc aacagagttt aaaaaacagt tccccctacc 420  
cct 423

<210> 3910

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D10

<400> 3910

tccgggtcga cccacgacgt ccgaaagctt atgagaatgc cttggctttg gcacttgctg 60  
gtgaattgga gtcttctgga gttgtggttc aaagcataac tcctttcttc attacgagtg 120  
aaatgagcaa gatacgcaaa tccagtttgg cagttccttc agctgagcga tttgctcgag 180  
atagtttaaa gagtgttga tatgaagtgt cttgcaatcc ttattggttt catgaattcc 240  
ttgcactagt tatttcctat ttaccttga aactacagat tcgctatgta gccaagttac 300  
atcgtggcct tcgtgaaaaa ggattgcaa agatgtcttc tgcagaatag aagagtagaa 360  
tatgatgtgg tgattagtct ttggagaaat tttgt 395

<210> 3911

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-D12

<400> 3911

tcgacccacg acgtccggaa tgaagggaag ttatggcaaa aacacgtgcc agcagcagcg 60  
 gtaaaacgtg tgtagcaagc gtagagcaga agaactgggt gtaaagggtcg agtagtagag 120  
 taagtgtaaa agggaaagga aaggagagaa agaggaaaagg gatgaaatgc agagatctct 180  
 agagaaaggc aagaaagaaa agaaaggaag acacattaaa tgaggcgaga aagcatagga 240  
 agtgaaacgg attaggaacc cgtgtagtct atgcagtaaa agaaagaatg agtaagaaaa 300  
 aagggagtca ttccaccagg ggagtaaagg cgcaagaaag aaaccaaagc aattgacggg 360  
 aatcggaaaa aagggtgga 379

<210> 3912  
 <211> 229  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-D2  
 <400> 3912

ttcacgggtc caccacgcg tccgaagaca aggaaggaat tcctccagac cagcaacggt 60  
 tgatatttgc tggaaagcaa ctagaagatg gtcgtactct ttcagactat aatattcaaa 120  
 aggagtctac tcttcacttg gtattgcgtt tgaggggttg ttgctaaata tttcagcaag 180  
 tagtttagtt tagcccttat tttctgaata aatattcgca gtttttgtc 229

<210> 3913  
 <211> 150  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-D9  
 <400> 3913

gtgagtcgta ttaccaccag cattgggaag gaaacagttc gcggattatt gcattgggac 60  
 gattgataga agctggacaa gccggtagtt aattgttcgg ggggagcagc cagagactag 120  
 tagtcaaata cacggctttg aaagcgtcac 150

<210> 3914  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-011-Q1-E1-E1

<400> 3914

ggtcgacgca cgcgtccgac cacgcgtccg ggtatctgcy gtagaacata tgaaagaagc 60  
aacaccgact gtttagcana aacacagcac tctgcaaaaa agagaaaatg taaagtatag 120  
agtgtgcggc ctgccagata gtagagaaga aatcgatgaa agtgaaagcg agtaaaagat 180  
gaggtatana gaatggcggc cctaaccgta aggatccaaa ggtagcgaag taaataaacg 240  
tttgaaaggc gtccagtatg aaaggagatt accgtttgtg gtgtttgtgt gtgtgttggg 300  
aagagagaga tggataccgg aaaaccttaa acttctgtac gcctaaggag tacaacccga 360  
gcaaaaacca gcgaatcaaa gaaaa 385

<210> 3915  
<211> 295  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-011-Q1-E1-E4

<400> 3915

ttcaagggtc caccacgcg tccggacttt ggaaagcttt tgtgagaaaa gggatggtga 60  
accgaatggg taaatttgaa aactcggaca aagtaaaaaa gcaatttcct gttgcagggg 120  
aatgcaaggg gccgaacacg actcttcact ggaagaagaa aaatttgga ctttgacagc 180  
gacgatgatg catgttctta ctgtaaaact tgtcagttgc gaagaagact ggaaaaaagg 240  
ctancancga aaaagataca caaccaaact agaaacccaa cgaagaccac atacg 295

<210> 3916  
<211> 143  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-E8

<400> 3916

acaacaccct atagtgagtc gtattaggag cacatacaga agagaagctt tccgaggaga 60  
atthttgtctg caatagtatg aggcaagtcg tgactgacac aatagacttg cgagaaagag 120

tagagcacac atgcacagaa tgg

143

<210> 3917

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-F10

<400> 3917

acaaaaccct aaagtgagtc gtattaagcg ctttatgaag tgcattgtctt ttcagatcac 60

acaaccactt ctgcactgaa tgaacgacgt atgggtacta actgtgcatt ttgggggatcg 120

agcaaggatg tcaaatatgt tatcaactag gatttcccg aatactagaca acactatggt 180

catcgcatcg gtcgcactgg tcgtgctggg gcccttggca actcccatac ctttttcact 240

ccgggttaaat tccgtgtagc gaacgaatta gttaacttgt tgcgagatcc tcgacacgac 300

attcctcccc agttggctcg tttcataaaa acttcggcct ttggcg 346

<210> 3918

<211> 268

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-F9

<400> 3918

cccacgagtc caaagaagga ctaatgatga ttactcacac aaccatttgg aacaaagagg 60

caatttctgg aatacaatac cagacgaaag agacaggaaa aatctgactc tcacgaagat 120

tcgaggggaat aaatgaggaa aaagcccata caccaagaaa atgtctcatc ataaggtcag 180

aaggaattcg agatcaacat agggtaggct taaaagcatc taaacataga ggaaagcggt 240

aaagcatcac tgaacagaac tccgatcc 268

<210> 3919

<211> 231

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-011-Q1-E1-G10

<400> 3919

aacagaaact caaggaaggt aacgtacctc acgagtttta ttattatccc aaagcaggac 60  
 atgcctttat gaatccaccc gatggaggggt ttacggatga aatgagatcg aaagtggaaa 120  
 tgttgcgtcc ttatgatgaa gagagtagac aattggcggt gtccagaatg ttggaatttt 180  
 tccgtaaaaa cttgtcgtct taaataaagt gtgtttgggt ttttgtgaaa a 231

<210> 3920  
 <211> 317  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-G9  
 <400> 3920

attccccgggt cgaccacac gtccggcccc agaaaggaga gggcgtaaga cgtgatacag 60  
 agtaggaaga aaagagaaga gagctagaaa ggaggtaaaa gaagagtaaa aggactagaa 120  
 gaggtacgga attcacgagg aaggagcgtg aaggaaggag gaatccaag taatcgagga 180  
 agaaaaagct tcggtgaaag cgtgaacgga ttttgtacac actgcccgtc aagttctgga 240  
 agtgtgctag gaataagcag gagaagtaga agagagtagg aaaagaagaa aggaagtgaa 300  
 gacgtaagac gtgaaaa 317

<210> 3921  
 <211> 304  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-011-Q1-E1-H11  
 <400> 3921

ggttgagatt ggttttcttt tcgtccacgc ttcgttccgt tactttttgt cgtgacaagt 60  
 tataatataa aatggccaaa gtaaaccctg tgctgctggc tcctaaacta agtgtaacta 120  
 gagagatagc tatcggtatt gggcttggtg tagcgtgtgc tatggatatt cgccagtggc 180  
 atctcggata cacggaaatg ataagaaaat attatcgga gttggatgag caagaacaga 240  
 gttcctcgtc gtcgtgaaaa ccgccttggt tttgtgagat aacaataagt ggaaccttgt 300  
 ttcc 304

<210> 3922

<211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-A5  
  
 <400> 3922  
  
 gggtcgaccc acgcatccgc acaggaata agttgttga taaactattg tttcctgtgg 60  
 aacgggtggc atgttcgttg tttcgatgga ataaggagga gaaggaggag atgagtagtg 120  
 gaaatggcaa agtgttcatg gaagagaacc atgagcctgg gaaaaccacg accagtgcgt 180  
 tggcctatgt caaacaatat tctccgatga aaaagaggtc ctcttagtgt cgttgatcaa 240  
 cgaaatgtgg tttcctaggt ggatagatac aaagataggt ataatatcga gcttttttat 300  
 tccttgttcg gataacgatg atatcgagac cacaaaaaaa aacaccagag caaccgcctg 360  
 tatecttttt gtttcccca acaacaacac tagtcgaata t 401

<210> 3923  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-A7  
  
 <400> 3923  
  
 gtactagtct agaattcccg ggccgaccca cgcgtcagga agagacggtg agagcaatga 60  
 accacgtcat cgaccgtgga tatgcatatt attggggaac tagtgagtgg tcagctcagg 120  
 aaattacaga ggcttgtcga gtcgcggatc ggaatggcct tattcgtccg ttgtgtgaac 180  
 aaccacaata taatatattc catcgtcatc gagtagagat agaatacga cctctttata 240  
 gagagtttgg tttaggtacg acgatttggg cacctttggc ctgggggtata ttatccggaa 300  
 aatacagtgg gaagaatatt cccgaagggt caagattatc tctggagaag tacaagtggc 360  
 tgaaagatac tgcattttca gaaagagagt ggcaaattga aaagacggat cagttaaagc 420  
 caatagct 428

<210> 3924  
 <211> 421  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B10

<400> 3924

aagctcttcc ttatattctt tgtgcttgga caatgggtgc aaagactgct ctgagttgcc 60  
tctttctctc tttccttata gctgccgcag ttgcagccga cgtagtttca gaggagagat 120  
ggggatatgc tcagcaaacc caacaacagc aacagtgcc acaagtatgt aaacagtatg 180  
catactatca gagtccagtc tgcacttccg taaccacaca gagcccatat tggacccaat 240  
gctcgaagac tgtgcaaacc tttgtcccaa gccagtgcag tacttatacc caatctccta 300  
catggaccta ttgcagcacc tacaccacca ctacgctacc atctcaatgc agcaaggccg 360  
tgactaccta tactcaaacc tgctgtgctt atgcccaaca aacttcctat gcagtcagta 420  
c 421

<210> 3925

<211> 466

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B11

<400> 3925

ggtataggtc cagaagtccc gggtcgaccc acgagtccgg cgttgtggta gtggacaact 60  
tggttttatt gctggaacct ttacttgta ttactccat tgtggcaata ttcttcacag 120  
aacgaatagt ttctgccctt ttgcagttc tttttccaag gttcacacac cattttgtgc 180  
tagttttcgt catcaaggaa tgtgcaaggc ctgcctctcc tcaagtcctt tttctgactc 240  
agcagagcca gatcacgagt tgacagcaaa tgaacatctc aacttgcat ggatgggtat 300  
tttagctact tttttgggta tgttgccaga aactgccgat gcttcttcgt tggacacctt 360  
gaaagatatt ttcaagagca agccggcttc tctgctacat cctctgggta tgttgggagt 420  
tttaggaact tctttgtata ctttccattt gggttatcag tcgagg 466

<210> 3926

<211> 317

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B4



<400> 3926

cacgcgtcca atcagatgaa aatggtgagg tgaaaagctt ataaaaatgt tccacccaag 60

gtctttacgt gaaggtttga tatacaagat gtaaataata tctttgtgtg atatcaaacc 120

gcgaataagg accgagatca aaaatcgcgc ttgacgatac gggggagtgc atcaagtaaa 180

agtctctcat ctcagacttc gcgaaacatt attaaaaagt tttccttata acaacttata 240

tcgaaataat aaacgatttt gaagaaaaaa acaaaaaaaa caaaaaacaa aaaaaaaca 300

caagacaaaa agaacac 317

<210> 3927

<211> 331

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B5

<400> 3927

ccacgcatcc gcagacgctt gggccagcaa ggaaataaag cgtttataca agcgcttcca 60

gaaactagat agaaacagct cgggaactat tgagagtga gaactttata tgattccaga 120

acttgcaatg aatcccttgg ttcctcgcat tgtttctttg tttgacggag ttaattttcg 180

tcagtttggt tccttggtga gtgtgttttag tgcaactgca ccgaagaacg agaagattga 240

ctttgctttt cgtatatacg atgtggacaa cgatggagtt atttccctca acgacctggt 300

tgacttggtta cgaatgatgg tcggttaataa c 331

<210> 3928

<211> 411

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-B7

<400> 3928

aattcccggg ccgaccacg catccacca cgcgtccgcc cacgcgtccg cggacgcgtg 60

ggggaaaatt gggcaatgta cagggaagta tgaccagta atgaggagtg gagtaaacag 120

aaaaggaagt aaaaggagg aatgaaggga agttatggca aaaacacgtg ccagcagcag 180

cggtaaaacg tgtgtagcaa gcgtagagca gaagaactgg gtgtaaaggc cgagtagtag 240

agtaagtgtg aaagggaaag gaaaggagag aaagaggaaa gggatgaaat gcagagatct 300  
ctagagaaag gcaagaaaga aaagaaagga agacacagta aatgaggcga gaaagcatag 360  
gaagtgaaac ggattaagaa cccgtgtagt ctatgcagta aaagaaagaa t 411

<210> 3929  
<211> 432  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-012-Q1-E1-B9

<400> 3929

cccggttcga cccacgacgt ccgattggaa tgtattcctc atctcgtggc caaacatatt 60  
acagagtgtt taagtattcc aactatcggg ataggagctg gaaaatatac ttcaggacaa 120  
gttttagtat atcacgatat gattggaatg ttacaacatc cacatcatgc caaagttact 180  
ccaaagtttt gcaagaaata tgctcaagta ggagaagcta tacaagaagc attggaaaac 240  
tatcgtgatg aagtgatgca agggaaaattt cctaataaaa catatagtcc ttatcatatt 300  
tcagaagaag aatatgaaaa gtttgtacaa gaaatgcaaa agcttcgtcc tcncgtgtcc 360  
tcctcgtctg caaccattcc cgacaatctt caccagaatg tgcagttgta tggagatacg 420  
anatagaaaa ct 432

<210> 3930  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C12

<400> 3930

gagaatggac gataaggaac taggcaaaag gatatggat ctgcggtaga acatatgaaa 60  
gaagcagcac cgactgttta gcaaaaacac agcactctgc agaaaagaga aaatgtaaag 120  
tatagagtgt gcggcctgcc aaatagtaga gaagaaatcg atgaaagtga aagcgagtaa 180  
aagatgaggt atagagaatg gcggtcctaa cagtaaggat ccaaaggtag cgaagtaa 240  
agacgtttga aaggcgcca gtatgaaagg agaaacgagt gtagcactgt ctatcgtcc 300  
aactcagcga aacagcaata actgtgaaaa tgcagtaaac tagcagtagg acggaaagac 360

cccataattc ttgactagat aggttttagg aggagagaga atcatgaag

409

<210> 3931

<211> 447

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C7

<400> 3931

aattcccggg ccgacccacg cgtcaaaaga gatggcataa ggggtgaaag gccggttatg 60  
atcgacatat tactattttc tctccagagg gacgactata tcaagtagaa tatgccttta 120  
aggctgtaaa gtcagtagga attaccaccg ttgctgtaaa ggggctggat gcagtttgtg 180  
gagtaactca aaagaaggtt ccagataagc tcattgaccc taaatcagtc accaatgttt 240  
tccgaatatc ggatcaccac ggctgtatth tctactggact tgcaacggac gcaagggcac 300  
aactacaacg aacacgatcg gaagcagcag atttcaagtt taagtttgga tacgaaatcc 360  
cggttgacca gatagcgaag agattggcgg acatcaatca agtttatacc caacacgcat 420  
atatgagacc tttaggagtt tcaactta 447

<210> 3932

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-C8

<400> 3932

gaccacgca tccatgtcaa cgtgggtcta agaaaatatt attgctttat tggtgaatag 60  
acaagggtcaa taagaaacat tgtgtgttta gtgtgaaaag aattgcaact cgtgtacgaa 120  
gcatttttag agataaagag agttgccccaa tgagcaatgc acagagtgtc gggtcctcgt 180  
tagacgacga ctthaagatt ccagaggaca taaaagtaag tgaaaaggag aagtaaatgt 240  
aaaaactata tatttcgata gtgtccttgt attgctcagc ttgtagaaag ttcttgtaaa 300  
agtgagtttc tcaacttcgtt tcgttggttac ttggaaaatc gccagggtgg gaaggacac 360  
ctcatctgta ggacagaact tgaccagatg gaatcctgta tgcgaaaaca 410

<210> 3933  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-D6  
  
 <400> 3933

aattcccggg tcgacccacg catccaagcc aagataaggt atcaaagtaa agaaagaagg 60  
 aaaaggagaa gaagagaggg taggcttaga agcagcaaac cagagaggaa agcgttaaag 120  
 catgaaagaa aagaaatccg aaaaagaaga gaaaaaggtg agaaagagga ccgaatcagg 180  
 gtaagaggta gaggagcaag aagagaagag agaattgctgg gtggagtagc gaaacaagag 240  
 aagggaagta aaaggtaaga aagaggaaaag gtttacgaga gaaggaagta gaaagaagag 300  
 agtgtaaggc ggcgtcataa tagaaatccg aaaggagtag aagaaaagag agagaagaaa 360  
 gaaaagaaga gaaaagccgt actgaagaac gacac 395

<210> 3934  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-D9  
  
 <400> 3934

gggtcgaccc acgagtccgg atgcgcaatg attgtttccg tggcaactcc tgaagtgaca 60  
 actactcctt ctactctaga gaaaagacga aatagtgact cgttattacc ttcacaagct 120  
 gaaagtttaa aagatggttt caaacaagtg gaagaacaac acagacgaga tttaaaaaag 180  
 ctcgaaaggc ggtataaaag cgctgtgaaa cagctgcaac tgaagcacag ggtatgcaaa 240  
 gtgttgaaag caaagaatac aggtggtgta agtaaggaag aggagaagtg acccataaag 300  
 tcatgaggga gattgtggga gtgggaatgt tgcctcttca tcctttcttt ctgaggttca 360  
 gaggaatgtg atggtagaag ttaacatcat tatagagaat atttgtatat aggaactacg 420  
 atacagtggg tttta 435

<210> 3935  
 <211> 356  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-E10

<400> 3935

gctcctacag gacttgttgt tcctgtgatc cgtaattgtc agaatttgaa ctttgcagaa 60  
atcgaaaagg ctattcataa attgggtgaa caagcgagat tagggaaact aaccattcaa 120  
gatatgcaag gcggtacctt tactatttcg aacggtggcg ttttcggttc tctcttatcc 180  
acgcctatcc tcaatatgcc tcaaagtgca atattaggaa tgcattgcat tcagaagagg 240  
cctgtagtcg tgaatgatca gattgtcatc agacctatga tgtaccttgc cctttcttat 300  
gaccatcgtc tagttgacgg aagggaagcg gtaacctttt taagaagaat caaaag 356

<210> 3936

<211> 275

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-E2

<400> 3936

ccacgcgtcc actaaggga tcatagcaat aatttcggaa ggagcggata gcttctaata 60  
aaaattagta tctagttatt caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaaag 120  
gaaaagaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagaaaaa aaaaaaaaaa 240  
agagaaagaa aaaaaaaaga aaaaaaagag gaaaa 275

<210> 3937

<211> 74

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-E5

<400> 3937

acaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aagaaaaaag aaga 74

<210> 3938

<211> 422

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-E8  
 <400> 3938  
 attcccggtt cgaccacgc agtcaatddd acaatggtaa ataccgtcac tgatatttct 60  
 agtttttctg cgaaagaaac ggcttggttct aaacagcacc ttgaaagtat tttcactaat 120  
 agtgagggtta ttacagctac agaaatacga gggatccatc tacacgtata gcagtggtaa 180  
 agagggctgt ggcataaaag actacaacaa caaagcaagg gctgggtgct gctgggaatc 240  
 gaacccgga cctttgtgtt tttgaaccaa aaaaaagac aatagataca gcttcactgc 300  
 tgctgaaaaa cgaaaaggat agacgttcag gacctttgct ccgtatacct gtcttctctc 360  
 caaaaaaggg ttcagtattg aacttgaaat catacgattt catatcagaa cattaaccca 420  
 aa 422

<210> 3939  
 <211> 187  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F11  
 <400> 3939  
 aaatggcact tgcccttgga agagatatct tttcttttca actagtggat gggatcctgg 60  
 aaacagggtta tctggcgata ggattccaag ctaggcgtag ctaggacgtt gtatgcctag 120  
 tcagtgttta gacatacgaagggttagcat gtgacgttcc ttgaaactcc aagacaagcc 180  
 tgtaaaa 187

<210> 3940  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F6  
 <400> 3940  
 gaccacgca tccaaccgcg acgagataat gcagacggag cagttttgta gttgttttgt 60  
 gctttgtcaa gcttgtctca gtaatgaaaa gcgacactcc tagttaaata catggcgttt 120

taatccatat aagtatagtt caagtcattc tcactagtag tcggaacaag tagtcgatag 180  
 ttttctactt gattttccag tgagaagttt gcaaaggaaa aggcaaaaga ggtaggcagt 240  
 ttttaatactg ggaagtgaca catgtacaag tgagaccttt gacgaaaaca tttcactggt 300  
 tgagaaaaca acctaggtga ctgctttcca tctacccaac tttgcaacga atacttttgc 360  
 ttcattgctt ccacggcaga gttacaacct tttccaac 398

<210> 3941  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F7  
 <400> 3941

aattggcggg tcgaccacg catccacca cgcgtccggt aaaaggtaag aaagaggaaa 60  
 ggtttacgag agaaggaagt agaaagaaga gagtgtagg cggcgtcata atagaaatcc 120  
 gaaaggagta gaagaaaaga gagagaagaa agaaaagaag agaaaagccg tactgaagac 180  
 cgacacaggt actcgaggag aaaggagacc caaattaagg tgagagaatg gacgataagg 240  
 aactaggcaa aaggatatgg tatctgcgga agaactgag gaagaaagag gcaaatacgg 300  
 gaaagcagta aaagaagaaa gagaaaggaa aaaactgagt atcaggaaga aaagagggag 360  
 tagatgagga aagaaagatc aacgaagtaa gagtaagaga aggagtaatg ttaaatgaaa 420  
 gcacggaaag tatttgaaga agagagtgtg aagcg 455

<210> 3942  
 <211> 402  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F8  
 <400> 3942

gacccacgca tccagatttg tccaaaattg gaagcgcgcc aaaagtttca aactgtgttg 60  
 ttatgactat gccattttgc tttgtatttg atacgacttt taagttttca aaaattcctt 120  
 atcgaaggtc ttctaccgac ctatgtaaac ccaagcaccg ttcgtctcca ttgaaacaca 180  
 atacccaagc ggtcttcttc aaggagaccg aaaagacaaa gtctacagaa cctgttaatg 240

ttaccagcgc tcccaactca aactcaaagt cggtcacatt tgacggacag ttgaataagt 300  
 ctgcttctaa tacatctcca cgaaccaata tatctctgga ctctgcaaag ttaaaggagt 360  
 actcttcgaa gtttcccaac gatatttctt tgcgacccgg gt 402

<210> 3943  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-F9  
 <400> 3943

aaaaccctc aagcgtggtg gagagacgag ctagataaaa ccaaaaaaga tatgggagga 60  
 ttctttccgg tgttgttttc ttttgcggtt ggtactggag ttggtgtgta tgtggcacia 120  
 aactatcgcg ttcccaacgt gcagtgggtg ttgcaacaaa ccacggatat tgtgaggaga 180  
 atggaaagac aagcacgcaa gtctcaagag gaaaaatagt gaaagaagaa ggtttttttt 240  
 ggcgccttgt ggagaagaaa caaagctatt gctggggaat gaatccatat ccaattattt 300  
 atagatatat atacatatat atgtagcacg gttatttgtg gtttccaatt ctttggaat 360  
 aaaaatgctg tagttggaat ag 382

<210> 3944  
 <211> 361  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-012-Q1-E1-G1  
 <400> 3944

attcctttta cccctctttt gggtattttg tgcctcaag cagtcattgtt gggtttccta 60  
 ccgactatat caactagttt ccccttagga caaagtgaag gttgccactg ttcccacgta 120  
 tctaaatata gggttgggca gcgttttgtc gcacgcaact gtcgtcagcc tcggcaagga 180  
 acaatcttga taatgtcaag cacaagctct tcggacaatt ggaaacagca gatacaagaa 240  
 agcatcaaga aagcgaaga agcaacgcaa aagtatggaa aaaactcgaa agaagcagct 300  
 gctgcctggg atgccgtgga agaactggat gcagaagctt ctcacagag agttaaagaa 360  
 a 361



<210> 3945  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-G4  
  
 <400> 3945

acgcgtccag acaagttcta gatgcagcgg cctgccaaat agtagagaag aaatcgatga 60  
 aagtgaaagg gagtaaatga tgaggtatag agaatggcgg tcctaacggt aaggatccaa 120  
 aggtagcgaa gtaaatagac gtttgaaagg cgtccagtat gaaaggagaa acgagtgtag 180  
 cactgtctag tcgtccaact cagcgaaaca gcaataactg tgaaaatgca gtaaactagc 240  
 agtaggacgg aaagacccca taattcttga ctagataggt ttagggagga gagagaatca 300  
 tgaagtagag gaggtggggg aagagatgaa agaccactgc atgaggataa ggaatctaac 360  
 tgagtaagga aaataagctt aagctagttt 390

<210> 3946  
 <211> 394  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-012-Q1-E1-G6  
  
 <400> 3946

gccgaccac gcgtccacgg acgcgtgggc ttcaagtgca ctgtctttga gagaagtggc 60  
 ctatcgattg gaactttatt ttggtgtacg agagatccgt ttggaacgta ttgaggaaag 120  
 cattttaaga ctcacctatc aggaaaaagt ggggcaagtg tgatgcagtt gtaactttat 180  
 aacttgaata tttcaatatg aacaaaaatt agaaaaagta tacacacgtg tctgaattaa 240  
 gcaattgcaa aaaagaaaat caatacaatc gctttttcca cgcttcccaa gtctcgtagt 300  
 caagacttag aatgagttga ttatcttcaa acgaaagttg cgatgtggta ctggaagtat 360  
 ccgttcgaaa tggagcagaa gatgtgcttt cttt 394

<210> 3947  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-G8

<400> 3947

gtcgacccac gcagtcacc cgcgcgtccg gtgggcctcc cagacggaag tgtttccact 60  
ttgcaagtgg aacaagacgc tacagtagac caattaaaag aaaagatata ccaagaaaag 120  
aagtgtggcc ccaaaaacaaa acggattcgt cttatttatt cgggaaaatt attgagcgaa 180  
ggaacttcaa agttagtaga ttgcaaagta gaagatggct cctatgtgca ctgtgttata 240  
tcagatgaag ttgcatctgg tcgtacgaac cacactcagg aaagaagcga acgtttacag 300  
actcgattc ccgtggctga tccccagtca gagtatcgag gtttggaccg tctccgtgaa 360  
gcaggtttgt acgaggaaga gataactggt cttcgacgac aattt 405

<210> 3948

<211> 350

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-012-Q1-E1-H1

<400> 3948

cccacgcgtc cggaagaaag aggcaaatac gggaaagcag taaaagaaga aagagaaagg 60  
aaaaaactga gtatcaggaa gaaaagaggg agtagatgag gaaagaaaga tcaaggaagt 120  
aagagtaaga gaaggagtaa tgtgaatgaa agcaggaaag tatttgaaga agagagtgta 180  
aagcgcgtac cttttgcata atgtcccagc gagtgaaga ggaagcaaaa agaaagaaaa 240  
agaagtagcc aggtaagacc cgaagctagt tgatcttatg ctgtccaagc gaagtaaggc 300  
tgaaccagta tctgtggaag aagatttga agagatggca taanggggtga 350

<210> 3949

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-012-Q1-E1-H11

<400> 3949

accacgcgtc cgaagcttat tgtgccactt atcttctgc ttatgatata ttaattgaat 60

gttacgaaga tgtggaaagt ggaaatgaga taaggtcggt tttacaagct tgtaagcgtc 120  
accacaaaat acctatgggc aagattgata caacccgaat gtggcaagtt ggcaagcaag 180  
tcagaaaaac aagagaggaa tccagtattc ccatcgttcc tttttctgca ggtgtataca 240  
ttgcagctat gatggctcag attgacattt tgatggaaaa gggacatccg gtttcggaaa 300  
ttgtcaacga atccgtcata gaatctgtag actctctcaa tccatatatg catgccagag 360  
gtgtttctta tatggtggat aattgttcta ctactgcaag acttgggtgcg agaa 414

<210> 3950  
<211> 331  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-012-Q1-E1-H2

<400> 3950  
cacgcgtcca agcaaaatac gccatgttgg tgtacaaaga cgcttttaca ggtgatgaag 60  
tatgttccga cgccatgaaa aacctccatg aagaggaaaa cggtttgctg,ttggtatgtg 120  
actcgtacaa catttccaaa ggaggggaag attatgggat agaagtaaac aacgatgaag 180  
atgaagaagg aggaggagga ggatcagata atgcggtgga acaagtgaat attgtggtcg 240  
agtcgtttgg tttacaacct tttcccatca gcaaaaagga ctttcaagta actatcaagc 300  
gctatagcaa acgagtcaag gactatttgg a 331

<210> 3951  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-012-Q1-E1-H4

<400> 3951  
gggtcggccc acgcgtccag cgatggatcg aggtcagttt gtgatggatg gaggcccttt 60  
aggcaatgat gggcgttggc atcctttgct cttatcgagt ttggcacaaa tggcctctcc 120  
acctcttttc gagactcgcg aagcttttct tttgaaaagt gttgtaaaga atggacgatt 180  
gattttgggt cgttttgaaa accaagttca tgcaagtgtg gatcctgcat gcagtgatta 240  
tggttattac catcatattt taagtagccg aggatgttcg agggcttggg agggatacat 300

tgtatctact agtaatgaaa caacagcaac aacaacaaca acctcctcca agaatcaaga 360  
gcgatattct gtagaatatg cgttatcgga tggaaa 396

<210> 3952  
<211> 192  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-A1  
  
<400> 3952

ctgcagcacg gtccggcatc cgggtcgagc cacgcgtccg ccacgagtcc gtaaaagcat 60  
tagctgtggg agcggatgcc gtttgtattg gacgagcaat attacggggc ctgcatatgt 120  
tggagttctg ggagtaaaga aagttttggc aatattaaag cgggaattga gagatggaat 180  
gaaactttgt gg 192

<210> 3953  
<211> 481  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-A12  
  
<400> 3953

cggtctagaa ttcacgggcc gacgcacgcg tcaggtggac ttgtcgatcc gccagaaact 60  
tgacaaggct attgttttca ccaagacatt atacaagggtt ttatgtgaca gaacctcaga 120  
cgtgcaaaga gactattcgt ataacttttg tattgcaaga cggaacaaaa aagcaagttg 180  
aagcacctat aggaaagcat attctggagt tggcccacga aaacgatatc gacttggaag 240  
gtgcttgtga aggttcgttg gcgtgttcta cttgtcacgt atacttggac gaacagtcct 300  
acaacaagtt acctgagcct tcggacgacg aaaacgatat gttggacttg gcttttggac 360  
tgacagaata ttctaggctt ggttgtcagg tagttgctag tccagaattg gatggtatgg 420  
tgattacctt gcctcctgct acaagaaata tgatggtaga tgggcacgta tccaaacatt 480  
a 481

<210> 3954  
<211> 486  
<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-013-Q1-E1-A7

<400> 3954

cgggctcggcc cacgcgtccg gttgaattgt atgtctgtag aagcagtact gtttgtttgc 60  
tgcgttaaag agctttctga gggtcaggtt ttaggaggtc tttaagtttt tttecggtcc 120  
ttttgaatcc taagtttata gtggaaacta atcctgtcga ggcggagtcg acaatgacaa 180  
taggaaaacg aaatttgacg tgggtttatc gcctttagca gaagaagggt agctgcaagt 240  
tagcccgagt gttgcattga ttggagttaa tctgttatat ggcagcaga aaccgctaatt 300  
actgtgctcg tggaaaaaac attccaacga ttgctgctgg cttcttgatt ttgaataatc 360  
aacactgagc gaatancct aanaaggagc aagcaaataa ctgctacgat gagctgagaa 420  
cagcttaaga tcacgtctat tgcgttcaag cgttgctata gtctcaaccc aagctcaaca 480  
aaaccc 486

<210> 3955

<211> 488

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-013-Q1-E1-A8

<400> 3955

cgggctcggcc cacgcgtccg cggaaacgtg ggcttagtcg taccaatgca gattttgatc 60  
tattagtaat ggttgacgat gcgactcggg gctcgtagga tcacagcggg taccactttt 120  
tcttaggaca tcttaagaga tattcacctg cttacgattc ggtgcatcat cttcgttcta 180  
gttgcagtta tggagatggg gttggctctt taccgttggt ggacaagttg ttctgaacca 240  
gttattatca gtagggatat cagtcgtttc ccagtggtgaa gcatcttgta gatgaaaagt 300  
catcttgatt gtcatagatg tgctgacaat agaagttggt ggctttgaat ttgataatca 360  
aactgaagc gaataggcct aaaaggagc aagcaaataa ctgctacgat gagctgagaa 420  
cagcttagga tcacgtctat tgcgttcaag cgttgctata gtctcaaccc aagctcaaca 480  
naacccat 488

<210> 3956  
 <211> 292  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-B10  
  
 <400> 3956  
  
 ttcgacaatt ggtacagtct caaggtaaac caagtgatat agcagcacia acaatattat 60  
 ctttattaaa agaccataca acccaataaa acaccatac acacacacac accaacataa 120  
 tagaatcgat agaacgaaag aggtggaaaa agtaatagac gcgagtgttt tgtccactag 180  
 tagagaatat ttcctagtcc ttgttgacg acatccaaga tggattgtcc cgtgacgatg 240  
 gaagttgccca caataaacgt cacacctaca aaataaaaaa tgttcaaat aa 292

<210> 3957  
 <211> 461  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-B12  
  
 <400> 3957  
  
 ggtaccggtc tagaattcac gggccgacgc acgcgtcagc ggacgcgtgg gcaacaaatt 60  
 cagcaaataa tgttaaaaat agaagagttt gaaaacgaca gaaatgaaca agaacttggt 120  
 ttgaaacagt tgctgccttt gaacgaagat cgtaagtgtt ggagacaagt aggtaagtgt 180  
 tcttattgag caaacggttg gacaagtaaa gccagtgttg gaagccacga gtaaagagtt 240  
 gcagcaagcg atacaaaacc taaacgaaga gttaaaaaca aaggaatcgg agtttcttga 300  
 actgaaagaa aagtacaaaa ttcgggaagt ggactcgtcc tctatggctt cggcaccttc 360  
 ttcttcccaa gcaacaaaac cataagtcgt tgaaactcag ccgttattgt caagcactgg 420  
 cataaattgg tttccataga ttgccactgt gagagtattt c 461

<210> 3958  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-013-Q1-E1-C11

<400> 3958

cggtctagaa ttaccgggcc gacccaacgcg tccaccacg cgtccgcca cgcgtccgat 60  
gcctcctttt atgattctta ttttggtta cttgaatgat ggtacaatta tgaccatctc 120  
caaggacaga gtcaaaccat cacctcatcc agatcgttgg aacttgggtg aagtgtttat 180  
tcttgcaacg gcacttggct ggtggctcac tgcagcaact ctcatttact ttacaacttt 240  
gtacaagaca tctttctgga cagatacttt tcctctgtac gcagattgga agaatcccaa 300  
gttgctcgct ataaggctc catacttcac ttatggctct caaaatagtt ttatgctaaa 360  
gtctctcatc tatctgcaag tatctatgat tggacaagct cttatcttct gtaccctgctc 420  
atactggatg t 431

<210> 3959

<211> 486

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-C12

<400> 3959

ggtgccggtc tagaattacc gggccgacgc acgcgtcagc ggacgcgtgg gcaagccaaa 60  
gtcaaacgag ggaataggaa ttgtgagtgg atgttgaaat atacagaagc tttatgtgcc 120  
atcgcctatt tcgtacatgg aaagccttac cctcatgagc acttgcaaca actgtggaaa 180  
ctgggtattac tcaatcaatt ccatgatact ttaccaggaa gtagtatccg tcaagtatat 240  
caagatgcaa gtagacacca caccaagggtg tgcagagaat tggaagatat aatgaaggaa 300  
acattccaac tgtttgtgga aaaacatgcc acgacgaacc aacaaggcgt caagtgcagt 360  
tggatatcgg aagactctag tacgagtgcg gctagtctcc attcttctta tcaacttgtg 420  
atatgcaatg atccatttcc agatgagcag atatoctatc agacaacttt tgatggcaaa 480  
tatatg 486

<210> 3960

<211> 317

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-C5

<400> 3960

cggggtcggcc cacgcgtcag cggaagcgtg ggtgcgttgt gatcgagatg tcaacggagc 60

tgcgaatata ttgttgcgct ttttgagcaa ataatggaa attattttta aaaaaaaaaa 120

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaggagaa aaagaaaaag 180

aatcaaaaca tatgttaaga ataatgtaa tttaaaaccc attcgaatag atcaccaaaa 240

ttaaattaaa gggaggtcga taaaaaaggt acttaagagg aaaaacactg ctctaagaca 300

atttaaacc c attgtaa 317

<210> 3961

<211> 318

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-013-Q1-E1-C6

<400> 3961

cggggtcgacc acgcgtccgc ccacacgtcc gctatcgaag tatttgccac cgcggaaca 60

agagctaggc aaacaagctt ttcgacgata cgaaattctt ttacgagctt cctctgtaat 120

cttactactt cagctgacaa aactgccatg ataaagccag aaagacaaag gaagcctcna 180

caaaccatat cagttcccaa aagggtgctaa gacctcctga ccaaacagca taaatcaggt 240

gttaaagtta atcataacc cttcaatgca gggtctcaaa agcgaacatt gaacctttaa 300

aattcgccaa agaccaag 318

<210> 3962

<211> 475

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-C7

<400> 3962

ccgggtcggc ccacgcgtcc gcggaagcgt gggttcaagc aaactacttg ctgttaccaa 60

ccaattgcgc aattcttgtt tctgaaacag caaaaattct tgttatacgt ctacttttta 120

tttagatgtc accaacgtgc aactagcctg gtgaatagaa caagtgccca gtcaatctta 180

tcactctggg ggcaaataca gaaggtctgg acgagtcacc atcttctcag aattttttga 240



agcatctttc ctttggagag aatatcgtct cgagttttgt gtgtagaaag agcgtttcaa 300  
 ctcagaacaa ctctccctcg agagttgtga cgccacaacg gacgataagc ttgtctaata 360  
 cagactaggg cttttggaaa aattcgacca gtttgtttca aaatgtcttt tcgtgagctc 420  
 ttttttcaag tctatgtgga agagaaacag gcaacactat atttcaaaga tgacc 475

<210> 3963  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-C8  
 <400> 3963

cgggctgacc acgcgtccgc ccaagcgtcc gagatattat cgtctgctct tctgtctatt 60  
 ctgttgctta atcattttac ttattgctat tctcgttccc attggagtgg cagtcattcg 120  
 tccaaataat ggaggataat caatatatgc gtgcgtgtgt tttttcgttg ttgtaaatgg 180  
 aaatatttcc tatcgatatc aaaggaatct tgtgaaatag aaacagagaa taggggaagt 240  
 cgtcacaagg accattcgta gtaatttgaa taaatgttgt ggtactcaaa tgtaaaaaaa 300  
 aaaaaaaaaa aaaaaagaaa aaaaaaaaaa aaaaaaaga caaaaaacat aaaaaaaaaa 360  
 aaacaaaggc ataggggaaa aactcaacga atttgttcca aaatgt 406

<210> 3964  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-C9  
 <400> 3964

ccggtctaga attaccgggc cgacgcacgc gtccgatttt actgtttcgt ttacttgtct 60  
 ttttgttgag ttatcatggc acgaacaaaa caaacagcac gcaagtctac cggtggtaag 120  
 gcacctcgaa agcagttggc aaccaaggca gcaagaaaat ccgcacccgt aactggagga 180  
 gtgaagaagc cccatcgtaa ccgtcccgtt actgtcgccc tgagagaaat tcgcaagtac 240  
 cagaagagca ctgaacttct tatccgaaag ttgcctttcc aaaggttggt tcgtgaaatt 300  
 gctcaagact ttaagacgga cctacgtttc caaacttcgg cggtgactgc ctttcaagaa 360

gcctcggaag catacttgggt cggtttgttt gaagaatata atctttgcgc aattcatgcc 420  
aagcgtgtaa ctatcatgc 439

<210> 3965  
<211> 282  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-D12  
  
<400> 3965

gccgaggcac gcgtcagccc acacgtccgg tacattcaac atcatcaaata gccaaaggga 60  
ggaaagaaag attcttcaaa gaaagaagcc acaagtaaac ctgcagcagc agatgctaca 120  
aagacgacag aaaagtctgg tccggaagcc aagttgaagg gaactgggtgc aaagaaacaa 180  
taaaaagttg actatgcatg ttctgttat gttttgtgag ttctgtttga tagtttccag 240  
ctattctttt ggtagtgaat aaagagaaaa ttttttatat tt 282

<210> 3966  
<211> 461  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-D2  
  
<400> 3966

cacgcgtccg cccacacgtc cgaggtccta acggttaagga tccaaaggta gcgaagtaaa 60  
tagacgtttg aaaggcgtcc agtatgaaag gagaaacgag ttagcactg tctagtcgtc 120  
caactcagcg aaacagcaat aactgtgaaa atgcagtaaa ctagcagtag gacggaaaga 180  
ccccataatt cttgactaga taggtttagg gaggagagag aatcatgaag tagaggaggt 240  
ggggttaagag atgaaagacc actgcatgag gataaggaat ctaactgagt aaggaaaata 300  
agcttaagct agtttggtcg gggaagtaaa gcctaagaaa gagtaaatta ggcaagcaaa 360  
ggcatgagag aagtataata gcagaagcat gcttgaagaa aaagaaagag atttcagaaa 420  
gggaagaaaa gtcagctata gagaacatgt taaggagaac t 461

<210> 3967  
<211> 470

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-D3  
 <400> 3967  
 acgcgtccgg gaagatgagt gattttgtca tttgtgatat aaagagaaaa gattgcctac 60  
 tgaaatgatt caaataagga ctgtgttaaa agtactagac aactcaggac caaaaacagc 120  
 aagatgtata ggaattcttg gaccacctaa aaagtttgct actgtcgggtg acaagattgt 180  
 agttactgca gagggaaaag tttaccacgg aatcgtcgcc tgttgtaagg tggaaaagaa 240  
 gagaccggac ggttcctttg taagaatcga ccagaacgga gtcattctag tagattcaag 300  
 tggaaagcca gtgggaaaca gagtatttgg tgttttgagc agtagagtga agcaaccgga 360  
 aattctctcc ttgggacgcg tcaaaaccat gtaagcttta atagttaggt gtagaaacta 420  
 gtaaaaactt ggcttgtaac caacgacgag tcatcgtttt gtcacgcttt 470

<210> 3968  
 <211> 473  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-D5  
 <400> 3968  
 cgggtcggcc cacgcgtccg cccaaacgtc cgcccacgcg tccgcccacg cgtccgcca 60  
 cgcgtccgcc cacgcgtccg cgcaaaggca gttggggcgt gccatgtcga gttttcaagc 120  
 gctgggactg aaggaatgga tcgttgaaac ttgcaaggca ctgaatatta agaaaccaac 180  
 tccttgccag gtagcttgta ttccagaaac actaaaaggc aaggacataa tcggttcttc 240  
 agaaacagga accggtaaaa ctttgtcttt tgttttgccc attgtcgacc ggctaagtgt 300  
 ggacccttgc ggtatttttg ctctcgtggt aacgccaaca agagaattgg cttatcaaat 360  
 atatgatcag ttcaaagcta tcggaggccc tatatccatt agagtagctg tggtgattgg 420  
 tggtatggag ttgatacaac aagcaaagga attggaaaat agaccgcata ttg 473

<210> 3969  
 <211> 475  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-D6

<400> 3969

acgcgtcagc ccaagcgtcc gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaggga 120  
ggacgccc aa aggggttcaaa aacttaatta cacttaaata aaaaataaaa agggcggttca 180  
gccctttcac ct aaattcat ttcattggcc ttcgttttaa aacttcgccc ttggaaaaac 240  
cccgaattta cccaacttaa gccctttgta taaaaccccc ttttcgcaa aagccttaat 300  
ttcaaaaagg ttttccctt tggcccttcc ccccttttcc ccaccctgaa tggcaaattgg 360  
gaccccccca gttttggccc attaaacatt gtggttcttg gtggttacc acagcgctccc 420  
ccctaaattt gcaatttccc tagggcgggg tcttttcgat tccccccatt ccttt 475

<210> 3970

<211> 414

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-013-Q1-E1-D7

<400> 3970

cgggtcggcc cacgcgtccg cccacgcgtc cgcccacgcg tccgcccacg cgtccgaaaa 60  
gctaaagtgt ttttagcagct gctgaaaaag aaagattatg cttacttctt ctggagtggc 120  
accatcacta taatttgtaa actatagcat tcaataagca aacgacatga acgataaacg 180  
aataatatta cctccacaaa aacacttctc gcaccgggat ccttgggaagg tttctgcaac 240  
atttttacta gagaatccgt taccgactt ttatcatagt aagcttggtc tagtattcga 300  
cgaataacgg tttcttttgt caactgctga aagaatattg tactaaaaaa ttggattcgt 360  
aatagtcttg caataaaaga agccaacact gctttcaatc nactacgctt cttc 414

<210> 3971

<211> 478

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-E10

<400> 3971

cggtctcgaa ttcacgggcc gacgcacgcg tcagattcaa cgaacgatga agttccagta 60  
cgttagtctt ttattggctc tcttatgcgt acgttctgct ctggctgctg aattggcacc 120  
tggaattgcg gaaaaaccgg tagagagagg atatgaggaa cctgctgta ccgaatattg 180  
ttattgggaa gaaatatgta tcaacaccca caccacacc tacaccaacc tactattact 240  
attattacgc aagaaatgca aaacaggaaa atgtcgagag aagcgtagaa aagagtatct 300  
cttccgcaga aaaatctgat gcggttcgag ggtatttccc cacgtactac tattatgaga 360  
ctcctacata ttattactat tatgagactc cgacatatta ttactattat gagactccat 420  
ccccaacccc gacaccaacg ccttattgta cctataccca aatgtgtaag agtatatg 478

<210> 3972

<211> 456

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-E12

<400> 3972

tgacggtcta gaattcacgg gccgacgcac gcgtcagcgg acgcgtgggc ggacgcgtgg 60  
gcggacgcgt gggtgactgc aaagcgacct tctagtgttg ttatggatgc gcttcacata 120  
acgaaagata tcaattcaat cgaaggcctt tcatggatca actttgcttt tacgctattc 180  
ctttgtggag tagcagcagt tgacggattg ttggtgggag ataagaccag cagctccggc 240  
aaacagaata caggagcgaa caatgcttga gtttcttgag aagttacaaa tagtcgtgtc 300  
tatgaagttg tctgagttgc gtgagaaaag acaagtagtt gtgtctatga agttgtcgta 360  
aatagttgat gtgtgttggt ttgttttgcc acagaaagga tgtttcgtcc ttggtggcgt 420  
ttgcattggt caataaatga cacgatttgt gtatac 456

<210> 3973

<211> 471

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-013-Q1-E1-E3

<400> 3973

cgtggcaatc agtgaataac ttctcctggt tcgtatttcg ttgaaggaga cgcattctca 60  
 gcttcctatt tccttgccggg aggcgccatt tctggtggtc ctgtaactgt agaagggtgc 120  
 ggaagtgatt ccattcaagg agatattcgc tttgttcatt ttttggagaa gatgggagca 180  
 acagtttagt ggacgccaca ttcgattacc gtttctcgtg caaaaggcaa ggtcttgga 240  
 ggaattgatg aagactgtgt agacatacct gatgccgcga tgacttttagc agttgttagc 300  
 ttattcgctg agggacatac ttgcttgaga aatatttact cttggagggt gaaggaaacg 360  
 gaccgacttg ctgcaatgac caaagagctt atgaagttgg gagcagcagt tatggaaggt 420  
 caggattata ttgttattta tcctcctgga acagttcgaa agaataaac t 471

<210> 3974  
 <211> 493  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E5  
 <400> 3974

acggtccggc cattccgggt cggccacgc gtccgccaa gcgtccgcc acgcgtccgc 60  
 ccacgcgtcc gtttatgacg aaacaagata ctctcttcga taatatcatt gctgccgaat 120  
 cgagactcgt gcaacttcga acgagtaacg aactatgtat tcgacgcaca cctttggact 180  
 tttctcactc ttttaagcaa gaattgggtt gtgaagtatt cctcaaactt gaatcggaac 240  
 aagttactgg tactttttaa gtacgcggcg ctttcaataa gtcaccgtt ctttctttcc 300  
 aaaacgatag cgtcaacct attgtcacag cttctacagg aatcacggt gctgcggtgg 360  
 ctacgcagc ttccatgttg aagatacctg tttgtatatt cgttcctcga aacataaac 420  
 ctaccaaggt ggataagtta tcaagttatg atgtggaact ccaatatgaa ggaacagact 480  
 gtttagaggc gga 493

<210> 3975  
 <211> 460  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E7  
 <400> 3975

cgggtcggcc cacgcgtcag cccacgcgtc cggtgacttg atatccacga gttctgggtgc 60  
 cgttgtggat tcaggcacia caactctcgt atttgattca aagtatttca gagacttgaa 120  
 aaaatatttc caatccaagc tatgtgacat tcccaacgtg tgttccaata gttcagcatc 180  
 ttctgaaact attttttcgg ggggtggagg tgcttgcttt tttttctctc ctacgcgatat 240  
 cgcaaagttt cctactatta ccatcgagtt gtccagtttt gaaatcaact tggaacaaaa 300  
 agactatatg ttgcatgtgc ctcttagcga tattgaaagt ggcaactcga cgattccaga 360  
 aaaatcaagg actagttctt cggatgccta ctgctttgca attcttgact ttccagggtt 420  
 ggagtcttcc gaaggatata gcatgatttt gggagatacc 460

<210> 3976  
 <211> 454  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-E8  
 <400> 3976

ccgggtcgac ccacgcgtac gcccaagcgt ccgaagagaa ggaagaagca aagaaggact 60  
 ataaggaagg aaggttcaag gaattagaat taaaaaaagg attaaggtaa atgaaaccag 120  
 gaaattattt gaaaaaaaaa ttgtaaaccg cttacctttg gcaaaaggtc caaccaatta 180  
 aaaaaggaac caaaaggaag gaaaagaaat taccaagtta aaacccaaac caatttggtc 240  
 taaggcggtc aaaccaaatt aaggctgaac aattaccggt ggaaaaaaat ttggaaaaaa 300  
 tggaataagg ggtaaaaggc aatccaaacc aattgaaacc tggtaacccc caaaagcaat 360  
 aaaattacct tatgcaggaa agaaaaagggt aaaggaaaaa aaggaagaac caciaaggaa 420  
 ctataaccaa aaagtgatt atccaaaagg aaaa 454

<210> 3977  
 <211> 482  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-F11  
 <400> 3977

cggctctagaa ttaccgggcc gaccacgcg tccaccacg cgtccggaaa cgcctaactg 60

tagttcacga ttgatactgc tgttttfgttt ggtctttata acgactataa ctttggtaaa 120  
 tgcaaaacga aactattata aagtgtctggg cgtggaaaag aacgcttccg agagagaaat 180  
 taagcgcgcg taccatcaac tagcaaggaa gtatcacccg gacaagaacg gcggtgacaa 240  
 gaaggcggaa ctgaaatttc gagaaatagc tgaagcatat gaagtcctat cagaccaca 300  
 aaaaagagaa acgtacgact tgtatggcga agaagggttg caatatggtg ccaacagcga 360  
 ctttcaagct caaggcagca attcgcgctt cacagaacaa tcttttcagg gctttccttt 420  
 tggagacttt ttcataaacg acttttttgc aagcggacga aaaggaaaca gttataagac 480  
 gt 482

<210> 3978  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-F12  
 <400> 3978

cggtctagaa ttcacggggc gaccacgcg tcaggaagag agtaggaaaa gaagaaagct 60  
 agaaaggagg taaaagaaga gtaaaaggag ggaatgaagg gaagttatgg caaagacaca 120  
 tgccagcagc agcggtaaaa cgtgtgtagc aagcgtagag cagaagaact ggggtgtaaag 180  
 gtcgagtagt agagtaagtg taaaagggaaggaggaaaggat agaaagagga aagggatgaa 240  
 atgcagagat ctctagagaa aggcaagaaa gaaaagaaag gaagacacag taaatgatgc 300  
 gagaaagcat aggaagtgaacgacgattagg aaccctgtga gtctatgcag taaaagaaag 360  
 aatgattaag aaaaaatgga gtcattccac caaggagta aacgcgcaag aaag 414

<210> 3979  
 <211> 474  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-F5  
 <400> 3979

cgggctcgcc cacgcgtccg cccaaacgtc cgacacaggc ctggtgtaaa gctttgtatc 60  
 gcattctact tagaggaagt tcgctgcgag gacgtccttt acaagttttc gataatgcct 120



tgtggtcggt ttcagtgcaa gtactgttgg agttagtatt ggcagtccac ggtgtaactg 180  
gagaacgaaa tggatttggg tagacgccgt ttaactggta ccatttcagt tgtttagga 240  
agaccattc caaggaaaac atattgtgga cccggtgtgg tcttcttgag atacaagagg 300  
gattactgtt ttcgaaaccg cttgaaggtc gcgttcgttt tttgaattgg agtgaaaacg 360  
agtggtttcc ctggctgact ggaccaccgc ttgcgggcat ccgttggacc gttcggctcc 420  
acaccctttg aagatgagca ctttttgtgg gaggttggag aagagccttg tttt 474

<210> 3980  
<211> 475  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-F7  
<400> 3980

gggtcggccc acgcgtccgg aaaaaatgaa agcaagcagt actggcacgg agaaggttca 60  
gaatgggtcca acaacacctg taagaagttt ttattcgaaa gtgggacaga gcccttctgg 120  
ttcggatagt gtgtatcatt ctccgtctcc aagtgtccgt acgtcgcctt cgagaaagat 180  
aggcaaggtc actattttctc ctatgtcacc agaaggctga agacagatgg cacgaaggac 240  
tccaatgaca cccaaaacca aagcggtata tgcttttggg gaatctcctg gtggtcattc 300  
gacacgaagc ggtaagaaac caaattacaa cgataccgga gtttcgggaa tcgacgaaaa 360  
cttgcaagga gctaaaccct tatcttttaa ctgtggtgct tttggtagat ataacagttt 420  
agttcctatt ctaattacat ctgatggcag gcctcctctt cctcctcaag aacga 475

<210> 3981  
<211> 446  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-F9  
<400> 3981

gcgtccactc tgacactatg atgacagtgg aagagaaacc gatgtgacct acagcgatgt 60  
gggaggttcc aaggagcaga ttgagaaaat tcgcgaagtt gtcgagttgc cgttgttgaa 120  
tccagaaaag tttattgcgc tgggtatcga cccaccgaaa ggtgttttgt tgtacggacc 180

tcttggtacc ggcaagacgt tattggcacg agccgttgcc aatcgtaccg acgcttgttt 240  
catcagagtt attggctcgg agttggtaca aaagtatgtc ggtgaaggag ctogaatggt 300  
gagagaactg tttcaaatgg cacgttccaa gaaagcttgt attatatttt ttgacgaaat 360  
cgatgccatc ggaggtgctc gttttgatga tggcgctgga ggagataatg aagtgcaacg 420  
tacaatgttg gaaattgtca atcaat 446

<210> 3982  
<211> 481  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-G10  
<400> 3982

ccggtctaga attcacgggc cgacgcacgc gtccgcccaa ctagtagaag aatatgttgg 60  
cgtttacttg tctcacagac tgtcgttggg tagagacttc tcgattctcc agatgtgcca 120  
aagccaatac cgtctcgttg cgacgtagtt cccagtgttc acactcttgg aggagtgttt 180  
cgatgaacta cagtccttat tcgataacta ccgacaaatc agaaggacat attgttcccg 240  
gtactttttc aagatttgag tttcttgaag gtgcagtcac cggccaacc gtcttgaacc 300  
ctagcatact tgactttaca gtgtctaag tttcagatgc tgcctttgga gaatggagag 360  
cattatcggc ttcaagtaga gcaaaagaac tggaacacag aagaaacgtc accaaagcga 420  
caatagaaag tctcaagaag actcctaccg aaaagtcaag ggctacattt cctggacaac 480  
t 481

<210> 3983  
<211> 448  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-G11  
<400> 3983

ggtctagaat tcacggggccg acgcacgcgt ccacccacgc gtccgcccac gcgtccgccc 60  
acgcgtccgc ccacgcgtcc gaactcacca gaaagaaagg cgtttcaa atgcaagaaa 120  
ctggatgtcg attacgtgtt ggtgatattt ggtggtgcgt tagggatatag ttcggatgat 180

atcaacaagt ttctatggcc tattcgaatt tctcattcgg ttgatccgac agtggatgaa 240  
 agtgcttatac ttacagccga tggtaactat cgcgttgggg aaggagcggg tccagcgttg 300  
 gtggagtcgt tgatgtataa gctttgttat tatagatttg gagaagttca gtttgatcgc 360  
 gggcatcctg ctggttatga taaggttcga ggtgaagtta tagcgaaaaa gaacttcaaa 420  
 ctgcgttatt ttgaagaaag cctttaca 448

<210> 3984  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-G12  
 <400> 3984

aattcacggg ccgaggcacg cgtccgccct gctgatgtat caaattccat ttgaacaagt 60  
 tcccgagcta gtgaaacatc gttcgggtcat tgttcggtcg ggttatgcct atttggtctc 120  
 ggagcagttg aattcatttt tggtttcttg ctttagaagt ttcttatcga aaagtttggg 180  
 agttgtacgt aagatggagc atcttgccga ggaacatgga caattgaagt tgctgttgga 240  
 aagcctaaga gagagtcagc gattatatat caatcatttt tcacacctatt catttgaggc 300  
 tacagaacgt gaaggaacag ggattcattt acaagatctt cctcaggcca tgttgatat 360  
 gccactttgt atgtttcgtt taatgaaacg gttggagcag aatcatcatt taaaacatgg 420  
 cgctcgtctt c 431

<210> 3985  
 <211> 438  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-G5  
 <400> 3985

gggtcggccc acgcgtccga tttgatttgg tggggacaac atttgcggtt gacgttggtt 60  
 ggaatggcag aggcacaaaa ggatagacaa gaaacagaat tggataaagc ctccgagact 120  
 tgccttcttg ttaaggggtt tggctactat ggaacatcgt cgaccttgaa tatgtgctct 180  
 aaatgctaca gagaacacca acgtcaagag caacaaggac aaatggaatc ggttggtcca 240

caacaccagc ttcaagaaga gtcgttagac aaagcagaag accgtttgca aaatactacg 300  
gaccttaaac atgtagatct ccaacaagat acgtgtgtct cagaagctat aacggggcag 360  
tcggagttgc aattggaaga taccgctggg gcttccttg aagcaaatac caggactttc 420  
gtttcacctt gtcaagct 438

<210> 3986  
<211> 481  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-G7  
<400> 3986

cggttcgagc cacgcgtccg cccaaacgtc cgcccacgcg tccgttggcg gttgttttca 60  
aagatgagcc ttgcggaaga gacaaccgca gtacaaataa aagtttataa atacatctcg 120  
ttgggaatga taaaaacagc tacttttata gcaagcaagc tctattatgc cactggaaaa 180  
tcgtcagcag caaaactcat ctacctccat tgcttattac taagtggaga ggccaagaga 240  
gcgaacagct tttttcagtt acgaaacggc gaaaacattg actcgtttaa caagctggat 300  
agaatttttt ttcttcgtag cgtcttgtct caacaagagt ggaagcaacc atccaacagt 360  
gaaaaggata gcacacttga atcctttctc gccaggaaac tcgaagaccg tggaaactca 420  
agagaccagc aacagggaaa tttaatccaa gtacgtttgg gcaactttcc tccaatacaa 480  
a 481

<210> 3987  
<211> 466  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-013-Q1-E1-H10  
<400> 3987

attcacgggc cgaccacgc gtcaggaaa gcgaatcatc ggaagtggta tatccaggtt 60  
ccacgataag tttggttgcg cagttaacac gagaagaaga agaagaggag acaggagata 120  
aacaaggaca agatggcgac ctcgttcatc atcctattgc ttacagtacg cgctttccag 180  
aaaagaaaga agaaagtggg tggttattag tcggtgaatt gggagctact ccaacacttg 240

ttgctatcaa acgtctcata gtcaaggag gtggaaaaaa gaatcaagtc aagttggaat 300  
 ggacggcacc gaatgaaata ggaagtcatt aatacgtttt atatctcatt tgtgattctt 360  
 acttgggagt cgaccaagaa gaatccattt ccattcaagt agttgatcct ccttcttcta 420  
 cggttggttt gtgagtatcg atgagcgctt gcaaaaattg ctgatg 466

<210> 3988  
 <211> 473  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-H11  
 <400> 3988

gtaccggtct agaattaccg ggccgacca cgcgtaacg gacgcgtggg gaacgagctc 60  
 atcttttggg tccacagaca tgctgaacga caatcagtct gataagagca ctttgaaaga 120  
 agcggaggag aagctgcaga gtgcagttca tactggaaca gagaaagttt ctcaggtggt 180  
 gagcgacgtc aaggaaactg tgacggagaa atacaaggaa tggacagcgc caaaaagtag 240  
 ccaagaagaa gcaaaagaaa aagcacaaga agcgaaagaa gaggctaata aagcttttaa 300  
 tgctatgaaa gaaagtgcga gtgccgcttc agaggctgca tcagagaaag cagaaaaaat 360  
 taagcaggat ttgaaggagt gaagatacac agtagttttc tcctatagtg tttttagtag 420  
 tatctgtagt gatatttgtc tcgtgatgaa taaaacacgg gttatcgtat ttc 473

<210> 3989  
 <211> 409  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-013-Q1-E1-H12  
 <400> 3989

cccacgcgtc aggaaaaagg taagaaagag gaccgaatca gggtaaaagg tacaggagca 60  
 agaagagaag agagaatgct ggggtggagta ccgaaacaag agaagggaag taaaaggtaa 120  
 gaaagaggaa aggtttacga cagaagggaag tagaaagaag agagtgtgag gcggcgcat 180  
 aatagaaatc cgaaaggagt agaagaaaag agagagaaga aagaaaagaa gagaaaagcc 240  
 gtactgaaga ccgacacagg tactcgagga gaaaggagac ccaaattaag gtgagagaat 300

ggacgataag gaactaggca aaaggatatg gtatctgcgg tagaacatat gaaagaagca 360  
gcaccgactg tttagcaaaa acacagcact ctgcagaaaa aaaattacc 409

<210> 3990  
<211> 484  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-013-Q1-E1-H5  
  
<400> 3990

gggtcggccc acgctccgg tgcacatga aactgctgcc tttgttgatt gtagcatgct 60  
ttttgctttt catagctaata tactgccact ctatacctat ctctgaagaa gcttatagtt 120  
cgagccaatc atatggaaat gctggagcgt cgggttacgc cgatgtatct ccattatcaa 180  
caaataattcc agagattgaa gtagggagtg ctgcctcctc tggagacggg gggagagctc 240  
attcaacaga gtttgccacg tattegcagg gctactcata tcaaactccg gactactttc 300  
ctgaatttgt gcaaccttcg tctaataga actatgaata cgtcgcacct tatgggaatc 360  
cggagtatta ttggaaccg gagtattatt ggaaccaga aggattatac taccgaagca 420  
ctactaatga agagtggat aatccatcta gttgggacga atgggttcca acgactgatg 480  
aggg 484

<210> 3991  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-A10  
  
<400> 3991

gacccacgcg tccaccacg cgtccgcca cgcgtccgc ttggtgggcg actctggtta 60  
ctggtgcgtt tgtaatacga gccgcaacct ttctctctg ttggtatgga caggtaactg 120  
gctgtttgga ctcatgttcc gtgtaacttc tcatttcact tgtagtacca cgctgataag 180  
ttgagttcgt tggctccaga actaaatcgg gtcagatcat atgttagccg ctcacctgga 240  
acttcactcg aaaagatcag aacttttcgt cgtctgcgac aggaactgct gaagagaagt 300  
gattcttcat ctttgaaagt gattccttat gggaagttag ctcacgtacc gctttttgta 360

accgcggcat cttcagttag aaggctaact tttcaaagat acccggtgag tgtttctcta 420  
ctcatgggtg gggcacagtt gatgaatttt a 451

<210> 3992  
<211> 409  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-A11  
  
<400> 3992

ccgggcccgc ccaagcgtca agaaaagaaa aaagaaatga gtggagtagt acaaggagcg 60  
aagatgatgg gagcaggaat ggcaacgata ggtttagcag gagtaggagc aggagtggga 120  
atagtatttg gaagtttggg gaatgcatat gcaaggaacc cagtattgaa gcagcagtta 180  
tttgataaca cgatattagg gtttgcgtta acagaggcag taggactgtt tgcattgatg 240  
atgagttttt tgatactgtt ttcatagtat aggagaaaca agaagtagaa gagaaataaa 300  
agagacagaa gaggagttat gagagaaaag atggaagtaa tagaagtggg aagtggagta 360  
ataatgaatc atatgaaaga aggaatggag aatataagga acgattaca 409

<210> 3993  
<211> 450  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-A12  
  
<400> 3993

ccgggcccga ccacgcgtc caccacgcg tccggaatt tccgagttgt gtcgttgcct 60  
catgggacgt attacggagt gggaacgacc cgttcctcgt tatccagtta tcgacccaaa 120  
ccctacaccg ggtaaagtat ggagcagttt ggatctatcc gagtacggta gaattgtttt 180  
gcttacttcc attgggtgca ttattggttt gacttcagct acaagaacaa caagaacaag 240  
tagtgatttc atgggagggc tttccggttt ttggggctct acaacgtggg cttatatgtc 300  
cactagaaac aaactcagag ggatgaaaga taacgggctc ggtcgtatac cgatcgaaat 360  
agcccaccag caaatgagta aataacaatc tgcgagtaac aaaagtggac aacagcttgc 420  
gtcataaagc tgattagtga gatccacaac 450

<210> 3994  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-A8

<400> 3994

gggtccgggaa gccgggtcgg cccacgcgtc cgcccaaacy tccgcccacg cgtccgcgga 60  
cgcgtggggtt ttactcata agactccaag taaagaccag aaaaccagga acttcaggtt 120  
tacgaaaaaa aagtggaaac attcagaaaa caacaatatt tgggtcaactt tgtgcagagt 180  
attttcgact cgcttcaga tatccaagga aagacacttg tgttgggagg tgatggaaga 240  
ttctacaact ccaaagcaat acgtattatt gcccgatgg ctgctgctaa tggcggttga 300  
aagctgctga tcggaaagga tggactcttg tcgacacctg cagtgtctgc gatcatacgt 360  
cacagaaaac tatatggagg aattatatt 389

<210> 3995  
<211> 341  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-A9

<400> 3995

gtcgacccaa gcgtccgatt tatgaagaga atccaatgga ttgcgattat acaaagttgg 60  
ggaattacaa gccgatagag tgtgaagcaa gttegttgggt tattttacac ggaagtttat 120  
ggcacttttc ttgtaaaaac aaaagcagtc aaagtcgtca tgcttattct ttgcatcttg 180  
ttgaaggaaa agatacgggt tggagtcctg ataattgggtt acaacctttc aagttgcctt 240  
ttgaaccatt gtgaccta aaacatatcg aaaacccaaa tttctcgtct cttttgggga 300  
acgtcgtcgt ctgtgcgtcc caatcactgc ggactgtctt t 341

<210> 3996  
<211> 423  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B1



<400> 3996

gggtccggaga ttcacgggtc ggcccaagcg tccgattcaa cgaacgatga agttccagta 60

cgttagtctt ttattggctc ttttatgctg aggttctgct ctggctgctg aattggcacc 120

tggaattgcg gaaaaatcgg tagagagagg atatgaggaa ccctgctgta ccgaatattg 180

ttattgggaa gaaatatgta tcacaccac acccacacct acaccaacct actattacta 240

ttattacgca agaaatgcaa aacaggaaaa tgctgagaga agcgtagaaa agagtatctc 300

ttccgcagaa aaatctgatg cggttcgagg gtatttcccc acgtactact attatgagac 360

tcctacatat tattactatt atgagactcc gacatattat tactattatg agactcogac 420

ata 423

<210> 3997

<211> 159

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B10

<400> 3997

gacccacgcg tcagaaaaaa aaaaaaaaaa aaaaaaaaaa aaactgaata acaaaaaaaaa 60

aaaaaaaaaa taaaaggggc ggcagctcta aaggatctaa gcttaagtaa acgtgaaagg 120

gacgtcaaag cacgtcaata gtgtcaccaa aattcattt 159

<210> 3998

<211> 276

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B11

<400> 3998

ggttacggtc aggaattccc gggccgaccc acgcgtcagg aaataagtta catgtatccg 60

tggagtatag gaatggaaga aactcgtcag actcatgatc tgaaggaagt aggttcaagt 120

cctatctccg caagagtaag aagggaaga gaaaagaaaa aaaaaaaaaa aaaaaaaaaa 180

aaaagaaaaa aaaaaaaaaa agaaaaaaa aaaaaaaaaa agtaaataaa aaatcaaaaa 240

aaaatcaaaa gtgtcaaaaa agttcaattc aaaggg 276

<210> 3999  
<211> 265  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B8

<400> 3999

attgttgccg aagatgacta ttttcaacgt gaaagggcgg atctccaact ccttgcccca 60  
attacatttg ctcaaactgc acttgagggt acaataagag tttcaacact acatgggtgaa 120  
atgggaatga aaataccgcc tggaagtcaa tcaaatgata tgaaagttat taaaagtcca 180  
ggctctccga aaataggctc tcgaggatat ggaaatcagt acgttcacat ccaagttggt 240  
gttcccacgc aactttctcc aaaac 265

<210> 4000  
<211> 397  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-B9

<400> 4000

ggtcaggaat tcccgggccc acccacgcgt cagcccacgc gtccgcccac gcgtccgccc 60  
acgcgtccgc tcaagtggat catcccacgt tggtaaagat agacttgtct caaggcagct 120  
ttaaagtact ccaagactgt gacagagatt tagaatgtga tcataatacc aagtttcagt 180  
tggaacttat tcagtatggt ctcttttcac ctgggttttg gacgagagaa aatgttctgc 240  
tcttctattt ggagctcgtg tcaggtgtat tcataaggga cactctctac cttttctaca 300  
acaaagggtga agaacatttg ttgcgagtt taatgctggt gttggagaca caagtttcac 360  
tgtatgcaga cattaaaaca aactgggaga aacgaca 397

<210> 4001  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-014-Q1-E1-C5

<400> 4001

cggtccggga atcncgggtc gagccacgcg tccgatagaa gaagatcatc ttcattccaga 60  
 agaacatgac ttggaggata actgcagtgg aagtagtgaa gatggtgagg acgatattgc 120  
 aagtgaagac gaatatacgg aagattccaa tccatccgtg cctataagag atggttcatt 180  
 tgaacaatat tatactggac actgtaatga gttgacgatc aaggaagttt ccttttttgg 240  
 aagtgactgc aaatatgttg tcagtggtag tgatgatggc tatattttct tgtggaatac 300  
 gcaaagtggc aagttgatca atgtcttga gggagattgt agtgtagtga attgtattca 360  
 gagccatccg atagatcctt tgatggcctc ttcaggaatt gagga 405

<210> 4002  
 <211> 401  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-014-Q1-E1-C9  
 <400> 4002

ccgggccgac ccaagcgtca aggaaggtat tccccagac cagcaacgtt tgatttttgc 60  
 aggtaaacag ttggaagatg gtcgtactct ctcagactac aacattcaaa aggagtctac 120  
 tcttcacttg gtcttacgtc tgaggggtgg aatgcagata ttcgtaaaga ctcttactgg 180  
 gaagaccatc actcttgaag tggagccctc agatactatt gaaaatgtca agtcgaagat 240  
 acaagacaag gaaggtattc cccagacca gcaacgtttg atttttgcag gtaaacagtt 300  
 ggaagatggg cgtactctct cagactacaa cattcaaaag gagtctactc ttcacttggt 360  
 cttacgtctg angggtggaa tgcagatatt cgtaaagact c 401

<210> 4003  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-014-Q1-E1-D1  
 <400> 4003

tgatcatttc ccctttttgt ttgtttatcg tttgtcaaag tttggttggt ttcttggtag 60  
 cagttgtaca ttcaacatca tcaaatgcca aagggaggaa agaaagattc ttcaaagaaa 120

gaagccacaa gtaaacctgc agcagcagat gctacaaaga cgacagaaaa gtctgggtccg 180  
gaagccaagt tgaaggggaac tgggtgcaaag aaacaataaa aagttgacta tgcatgtgca 240  
gtcctgttat gttttgtgag ttctgtttga tagtttccag ctattctttt ggtagtgaat 300  
aaagagaaaa ttttttatat ttaaaaa 327

<210> 4004  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-D10  
<400> 4004

aattccggtt cgacccaagc gtccgcccac gcgtccgtgc ttgtttacct atgtcgatta 60  
tagtgttttc cacaatatat ttgctgtggc tgctcaaat agtaatccag ttcgtgttcc 120  
caacgaatct tgtaaagaaa tgaatgaaga acaactcacc aacagaagaa ggtaaaccag 180  
ttggaggaga cttgttattt atagtaccga aatggagtga ctatctataa cacaatcgtc 240  
tgactatgat gatttttaaaa ggcagatatt ttaaaagcct tgtaaagcaa tcctattttt 300  
tttaaaaaaa aaaaaaaaaa acaaaaaaaaaa aaaaaacaaa aaacaaaaaa accaaaaaca 360  
acaacaaaaa caaccacaaa ggggcgaac 389

<210> 4005  
<211> 445  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-D11  
<400> 4005

gtaacggtca ggaattcccg ggccgacca cgcgtcagga gataatgcag acggagcagt 60  
ttttagttag ttttgtgctt tgtcaagctt gtctcagtaa tgaaaagcga cactcctagt 120  
taaatacatg gcgttttaat ccatataagt atagttcaag tcattctcac tagtacgcgg 180  
aacaagtagt cgatagtttt ctacttgatt ttccagtgag aagtttgcaa aggaaaaggc 240  
aaaagaggta ggcagtttta atactgggaa gtgacacatg tacaagtgag acctttgacg 300  
aaaacatttc actgtttgag aaaacaacct aggtgactgc tttccatcta cccaactttg 360

caacgaatac ttttgcttca ttgcttccac ggcagagtta caaccttttc caactttccg 420  
ctaaaagtca aaagagttta ttcga 445

<210> 4006  
<211> 385  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-D12  
  
<400> 4006

acccaagcgt cagatattgc agttggaatt agtggagcta ttcagcattt ggcaggaatg 60  
aaagatagca aagtgattgt agcaatcaac aaagatcctg acgcacctat ttttcaggta 120  
gcggtattatg gtctagtggc agatcttttt gaagctgttc ctgaaatgac caagttatta 180  
gatcaagatg gaaagacagc tgtccattct taggtgacat ttcattttgt tcgatacaac 240  
ttaaagataa atatgacttc cttgaaaaaa aaaaaaaaaa agtaaaaagt gagggacaga 300  
caaaacagat aaaagattac aaccaaatac aagtcagcgg cgaacacttt aaaaaacata 360  
aaaaaaaaagg ggcggccgcc caaaa 385

<210> 4007  
<211> 471  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-D5  
  
<400> 4007

ggtcgggatt ccgggtcgac cacgcgtccg cggaagcgtg ggtaagcgtg cagaagaact 60  
ccgagaaatg ttttctgatg tgaatatcag aatatggcct tgggaaggct taatggatgt 120  
ggtaagcacc tcagaagcga tctttacttg cacgagctcg tcggaaccta ttctatgtgc 180  
ggataattta cgaggtactt tggcagattc ttcaggaaca cttgtcgttg atatatctgt 240  
tcctcgaaat gttgcctcgg atgtgaagga gggtccatat gtctattcct acaatgtgga 300  
tgacttgaaa gcggtagtgg ctcagaatca gtcacgtcgt cgcaagctag ttcaagaagc 360  
agaaagtttg ttgagtgaag aattgcatgt cttttgtaat tggcatcatt ctcttgagac 420  
tgttcctgct atcactcgtt tacaagagcg agcagaaagt attcgttcgg a 471

<210> 4008  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-014-Q1-E1-D9

<400> 4008

```
attccccgggc cgaccaagc gtcagcttcg acgtcgtgga ctgaccgttc tgttggcata 60
ggtacaacag agcactcaag agacgtgaag caagtaaaag tcgttcgaac ataaaatggt 120
tcagttatatt gtaaaaagtc ttcataagcaa gactcttttcg tttgattttc ccgcggtatac 180
ctccatatgg caactacgaa agcaacttgc ggaagttgaa ggcgttcctc tagcagcttt 240
aagaattggt tctagtgtta ctgatttagg ggatgagaag agtataggag atctcgatag 300
tcagtttttg tttactagct tgagacttat gggaagtgcg annagaaga gaaaaagtct 360
tttacgaaac cgaagaagat caagcataag aagaaaaggg tgcacttgca gtgctgaagt 420
tatataaagt ctcggacga 439
```

<210> 4009  
 <211> 473  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-E1

<400> 4009

```
gggtcggggc acgcgtccgc ccacgcgtcc gggttgaaag gcgtccagta tgaaaggaga 60
aacgagtgtg gcactgtcta gtcgtccaac tcagcgaaac agcaataact gtgaaaatgc 120
agtaaactag cagtaggacg gaaagacccc ataattcttg actagatagg tttagggagg 180
agagagaatc atgaagtaga ggaggtgggg taagagatga aagaccactg catgaggata 240
aggaatctaa ctgagtaagg aaaataagct taagctagtt tggctgggga agtaaagcct 300
aagaaagagt aaattaggca agcaaaggca tgagagaagt ataatagcag aagcatgctt 360
gaagaaaaag aaagagattt cagaaaggga agaaaagtca gctatagaga acaggtgaag 420
gagaactcaa aaagaggaga gcaccgaacg atcgaagaag aaactttggg ggt 473
```

<210> 4010  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-014-Q1-E1-E10  
  
 <400> 4010  
  
 ccggggccgac ccaagcgtca ggaaatattg gagtcaaagt aatttgtgga cctggaactc 60  
 gcattccaga tgcagctatg caagtattga aagccattga agaagaacca accaacggtg 120  
 caagtaatgg tgtggaacaa acatcgtagt agaaattata agaaaattat ttcgttataa 180  
 caaaataaaa acattttcaa gaataaaatt aacacctttg agttcaccaa gctcccaaaa 240  
 aataacgttc tgccaaaaaa aacgggcggc ccccaaaaag gtttcagcct cacttaccct 300  
 taaaggaaaa ttcaaacctc ttcaaaagtc ccccaaaaat aaattccacg 350

<210> 4011  
 <211> 150  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-014-Q1-E1-E11  
  
 <400> 4011  
  
 aattcccggc ctgaccacg cgtcagggtgc ttcgcatcat acaacaacac aaattattta 60  
 aaaaagagat tcctccagct aatcctgttg cttgacatgc agaaaaaaca ctattgtaaa 120  
 taacttgtgt tgtcgtatga tgcaaagcac 150

<210> 4012  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-014-Q1-E1-E8  
  
 <400> 4012  
  
 cgggtcgccc acacgtccgc ccaaactgcc gcccacgcgt ccgaaaggcg tccagtttga 60  
 aaggagaaac gagtgtatca ctgtctagtc gtccaactca gcgaaacagc aataactgtg 120  
 aaaatgcagt aaactaacag taggacggaa agaccccata attcttgact agataagttt 180  
 agggaagaga gagaatcatg aagtatagga ggtggggtaa gagatgaaag accactgcat 240

gacgataagg aatctaactg agttaggaaa ataagcttaa gctactttgg ctggggaagt 300  
aaagcctaag aaagagtaaa t 321

<210> 4013  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-F10  
<400> 4013

ccgacccaag cgtcaggac tgtgaaggat tgttggttgac acaccatgca 60  
gcccatgtac agtagcagag aaaggtatcc atattatgac ggtgaagtat atgatgacac 120  
gggtggtgtt cccccgaaa caaggcccaa aggaagacgt gtcatagtag aagagccaga 180  
agagtacgga atgccgccag gggacagaga tgatagcgaa gatgacgagc acattggtgg 240  
ttggagaaga agagaacagc acagcatgca gccttggaac cagtcacctt ttgaacattt 300  
tgacagactt ttcgaaaatc ccttttctgc aatggagaga ggatgattcg gtggattatt 360  
tggttaacttg ggacagtcct taagaagact ggaggacgac tttgccaaaa gtgggggaaa 420  
tggaagtgct 430

<210> 4014  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-014-Q1-E1-F11  
<400> 4014

gtcaggaatt cccgggtcga cccaagcgtc cagtaagact ttcattcacg gaaaatgtac 60  
aaactgcata catattctaa caacccaaga gctcaaaaag cactgattgc ggccgaatat 120  
gcgcaagtgt cagttgaagt tccacccttt gagatgggta aggataacaa gactccagag 180  
tttcttaagc tatttccctt gggaaaggta agctatgttg gattctctat tggactgtgc 240  
ccttatttgg aagtaggttc cagctttgga aactccccag ggacctattt cagaaagtcc 300  
tgcaatagcc tggatatttg caaaattgcg ccaagataag ggtctctgtg gaagtacctt 360  
ttatgaagag tgtcaagtac aacagtggat ttcttttgca gaagatgctt ttacgaaaca 420



ttatccagt

429

<210> 4015  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-014-Q1-E1-F12  
  
<400> 4015

atgaaacatg ttgttttttta tgctcaccga agaggcgatt tggtagctttg tgatgaactt 60  
cgacgaaatt ttatgaatat gaaaccaaga aacttcctga tcgtagatga acacaatgct 120  
ctttggcaga aatttggttag tgacactaaa acgtgggttac ccttctttga gttttatgca 180  
gatccagtag gacatgctgc cgtaagtaca tgcgtttcct tccttttgat cattaactgg 240  
ggatagtggg attgtaaatt tgttatcgca acttcgcagc ttcacgagtt caagctgccg 300  
agtggatata gaaattctaa gaggtatgtg gaaccattga gccgagaaga atttgaaatc 360  
agatattccg ggataatgaa ag 382

<210> 4016  
<211> 474  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-014-Q1-E1-F3  
  
<400> 4016

gtccggcaat ccngggtcga gaccacgcgt ccgcagttat cctatactaa aatgttgtct 60  
cttcaaggca atactgcgcc gtatatgttg tatgcttttg caagaataca aggaatatat 120  
cgtaaaggag atatagactt gaaccaaggt catcaagcag aaaacgtaca attcattctg 180  
gacgatccga cggaactgtc gcttgcaaag atgttgcttc aattggaaga aatgttatct 240  
ttactagaaa gggacttgaa acctaattt ttatgcgact acatgttcga actaagtcaa 300  
cgctttaacc aattttatga gaattgtccg gtactcaagg cagaaacggg ggaccttaga 360  
acttctcgac ttgccttggtg caaactgact gcgaacacac tcgcaactgtg ttacatttg 420  
cttgaatttc ctactttaga aagaatataa aaatatatgg agaagcaacc aana 474

<210> 4017  
 <211> 380  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-014-Q1-E1-F4

<400> 4017

```

gggtcgagac acgcgtccgg gcaaacggag ttgaccattg gattcctctt tattttcaac   60
aggaggaaac ctctcttttg aagctggatt tgcccatcgt tactgggttcg gcgttttttag  120
gctttgttct tttggttatg agtttcacct gtatgaatat tactattcca ccttacaaca  180
gtccacagat catcaagatt tgggcagtat tcataagcat tttgggcttt ttgttgcttt  240
tatecttttc ttccatgttt tactggatgc gaaaaaatgc tcctcgaacg gacttatana  300
tgccttacca tggagctttt cgcgggtgta tgaactttga aaaataaatt tgggttgctt  360
ccatttanta caattgccac                                     380
  
```

<210> 4018  
 <211> 369  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-F7

<400> 4018

```

gaatgtacga aagaaggaaa aggagaagaa gagagggtag gcttagaagc agcaaaccag   60
agaggaaagc gttaaagcat gaaagaaaag aaatccgaaa aagaagagaa aaaggaaaga  120
aagatcaagg aagtaagagt aagagaagga gtaatgtgaa tgaaagcagg aaagtatttg  180
aagaagagag tgtaaagcgc gtaccttttg cataatgtcc cagcgagtga aagaggaagc  240
aaaaagaaag aaaaagaagt agccaggtaa gaaccgaagc tagttgatct tatgctgtcc  300
aagcgaagta aggctgaacc agtatctgtg gaaaaagatt tggaagagaa tggataaggg  360
gtgaaaggc                                     369
  
```

<210> 4019  
 <211> 504  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G1

<400> 4019

gcctgcgcct atcgggtccgg acattccggg tcgaaccacg cgtccgcccc cgcgtccgcc 60  
cacgcgtccg cccacgcgtc cggagattgc aagaagataa tattttgaat agagcactat 120  
cacaaccagg agatgtattt ctgtgctttt gcaacatcca gttgttggtg aatgcagaaa 180  
gagctattat aggaaatatt acttgctccag aaagtatcga attgtgtcgt ctattagctg 240  
gacatatagc ggtttggttc gatgaacatt tggatgactt tcgtttggaa gctatcttgg 300  
gagcactatt gtgtacttgt tattgtgagt ggaagcgttt tgaaggagaa ttgggggtac 360  
aagaatggaa tgaattggag aagatatctt ccttagatac ttggaagctt gtgcttggtg 420  
caagacaaag agtggataat atgttacagc gactacacaa gctgacgagc atcttgcct 480  
ttttatactc gggcgaacaa ccga 504

<210> 4020

<211> 434

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G10

<400> 4020

ccgggcccgc ccaagcgtca gggaagacgc gccgctggga acgaccaatc cttatggaaa 60  
taccaagctt ttatacagg aaattctaaa ggacgtttac aacgcagata atacttgga 120  
tgccgtggtc cttcgatatt tctaaccctg ttgggtgcaca cccaatggt ctcatcggag 180  
aagatcccaa cggattcca aacaacttga tgccttaa at tgcgcaagtt gctgtatgga 240  
cgtctacccg aacttagcgt ctttggaat gactatgaga cgcacgacag aactggagtt 300  
cgagactata ttcacgtcgt cgatctagcc aaggacatg ttgctgctct taacaagatg 360  
gagaagcatg ccacacgttg ggttcagtt aatttgggaa ctggcaaagg ctattctgtg 420  
ttggaaatgg taaa 434

<210> 4021

<211> 488

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G3

<400> 4021

gtccggctat tccgggtcga gccacgcgtc cgccacgcg tccgggtttc tactactgta 60  
tttcttgctc tgcccagtggt tgtaaccgaa acaagtaaatt ttgaagcatg gttacgatct 120  
tcgcgtcttt tgaatacttt tacagttgga ccgcaagcaa gtgaaagtag tctttgctgc 180  
ttgaagtgtc acgctcttgt ttgggggacg tcaggaccat tattgtgaca ctttcctctt 240  
ttttttatga agtaggggtct attttatggg ttccttttct caagctttca gtcaaagtat 300  
atatatatat atatatatat atatatatat atgtggaaac ttgcgtcacg gaagatacca 360  
agttttgaag tgggtttttac ttttcgacaa acgaaaggca atcatagcag ctagtttgct 420  
tttgtcctag tacatgagtc gttgcaaagg caactttttt ttaaaaaaat atagactagt 480  
ccagcgag 488

<210> 4022

<211> 462

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G6

<400> 4022

gggtcgaccc acagcgtccg gtcgatgggt agtggcaagg gtagtagtag gagggtagtg 60  
ataaagtact ttttatgaag aaaggaggga aaaaactagc gcaaactgaa gctctcttac 120  
tgaagacttg gaattttcaa aaacgtcaac acggtgaaaa tgcttgtaat attcttgtag 180  
caatagtgtc tcttgttttg acatttggtc tgggaaaagt actcagtgtc ggtagtaggg 240  
tacctgtgaa ggcaagtaga gcaaataccta taggcgcttt tgctcgttg ctttttgatc 300  
cttacgactg tcatcgagct tatagcgacc cagaactatg tctcaaggac ctttttgac 360  
cgaggcctat tatatttcca tattggtccg tgaatgagac agcaacgggg tttgtcaagt 420  
acaacccttg taaccctctc aagaacgaaa cacagtgttt gc 462

<210> 4023

<211> 381

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-G9

<400> 4023

attccccgggt cgaccaagc gtccgaggag caagaagaga agagagaatg ctgggtggag 60  
tagcgaaaca agagaaggga agtaaaaggt aagaaagagg aaaggtttac gagagaagga 120  
agtataaaga agagagtgtg aggcggcgctc ataatagaaa tccgaaagga gtagaagaaa 180  
agagagagaa gaaagaaaag aagagaaaag ccgtactgaa gaccgacaca ggtactcgag 240  
gagaaaggag acccaaatta aggtgagaga atggacgata aggaactagg caaaaggata 300  
tggtatctgc ggtagaacat atgaaagaag cagcaccgac tgttttagcaa aaacacagca 360  
ctctgcacaa aagagaaaat g 381

<210> 4024

<211> 422

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-H3

<400> 4024

gtcggacatt ccgggtcgaa ccacgcgtcc gatttgtgtg tcgttgcttg ttgggggtgtg 60  
gtttgttgct gtccaggga tatttcttag taatcgatca tggcacagag caagacttta 120  
gtcactttg aacctgtgaa tctatacgag tttgaagctt tggcaaagtt gaagctacca 180  
aaaatggttt atgactatta cagttcagga gcagacgac aatatacact tgcagataat 240  
attgaagctt ttaaaagact tcgtttgggt cccagagtat tgggtggatat atctgcccaa 300  
gatatttcta ccactatatt ggggtgttct tccagttttc cactgggtcat tgcacctact 360  
gctatgcaac gaatgggaca tcccgatggc gagtgtgcaa ctgcaagagc agcagccaag 420  
aa 422

<210> 4025

<211> 97

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-014-Q1-E1-H9

<400> 4025

ttttctttct tttactgcat agactacacg ggttcctaact ccgtttcact tcctatgctt 60  
tctcgccctca tttactgtgt ctgtgtttct atttgcc 97

<210> 4026  
<211> 57  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-015-Q1-E1-A3

<400> 4026

ttacatacgc gtgtatgcga cgtcatacat catcggaacc gtcantctaa ttcaaaa 57

<210> 4027  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-B11

<400> 4027

gggccgaccc acgcgtccac ggacgcgtgg gcggctctct tgacgatgaa gaacacggca 60  
aaaagcgaaa tgtagtgtga actgcaagtt ttcgtgaatc attgaatctt tgaacgcaag 120  
ttgcgctttg aggagaattt attttctctgg aagcacgtct gtgggagtgg atgagaattg 180  
tctttttcca atagaggaag aggataataa catgtttata gagcttttca gggttgggca 240  
ttcgtgcctt aacgataatt ctagtggtag cataagagaa gataatttga tacatttatg 300  
gaatagtgag gaagagaaga actttttttt cttgctagat gataatatct atatatacat 360  
atatatcata caatatgtat ttgtacgata aagaattttt ctccc 405

<210> 4028  
<211> 320  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-015-Q1-E1-B9

<400> 4028

cccacgcgtc caggtagaga ttggttttct ttcgtccac gcttagaacc gttacttttt 60

gtcgtgacaa gttataatat aaaatggcca aagtaaaccg tgtgtcgtcg gctcctaaac 120  
 tgggtgtaac tagagagata cctatcggtg ttgggcgtgg tatancgtgt gctatgggtat 180  
 ttcgccagtg gcatctcgga tacacggaaa tgataagaaa atattatcgc gagttggatg 240  
 aacaagaaca gagttcctcg tcgtcgtgaa aaccgccttg tgtttgtgag atagcaataa 300  
 agtggactct tgtttttttt 320

<210> 4029  
 <211> 112  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-E12  
 <400> 4029

cgcggtccaac caaacctcca ctccacacgt ccgcccactc aaaaaaccac gcctcccgtt 60  
 tctgtggcca attatcagaa tacctctttt caacgaacaa cgacaacacc aa 112

<210> 4030  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-015-Q1-E1-E5  
 <400> 4030

tcccggggccg acccaagcgt ccagaaagac attttaaagt aggcgagaaa gcataagaac 60  
 tgaaacggat taggaaaccg tgtagtctat gcagtaaaag aaagaatgag taagaaaaaa 120  
 gggagtcggt ccaggagggg agtaaaggcg caagaaaggg acccagggca attgacggga 180  
 atcggaaaaa ggggtggatc acgtaaatta atccgatata aaccgagaac cttacctctc 240  
 caagaagggtg ttgcacggct gtcgaaagaa cctgctgtga agtgagagaa cgtacgacaa 300  
 agccaagtga ggaaaagaag gcaagtatct ttttgccga gaaaggagag ggcgtaagac 360  
 gtgatacaca gtacgaagaa cagagaagag agctacaaag gacgtaaaac aacagtaaaa 420

<210> 4031  
 <211> 373  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-015-Q1-E1-F10

<400> 4031

acgcgtccag aaaagctttc tatctttctg aaagctgctg atctattgag cactacatat 60  
cgagcacaag cttgtgctgc tgtgatgttg ggacaaggaa agacagtatg gcaagcagag 120  
ggggatgcgg cagtagaaac catcgatttg gggagatttg gttgcaagtt tgcagaggaa 180  
atttacaacg tgcaaccgcc tgaaaacgta aaaggagttt ggaacacaac agaacataca 240  
ccgttggaag gttttgttgc tgctattact ccttttaact ttgtggctat tgctgccaat 300  
ctgccttctt ctcttttttt tatgggaaat gtggttttat ggaaacctac ggaaagtgcc 360  
atgttgggtg cct 373

<210> 4032

<211> 358

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-015-Q1-E1-H9

<400> 4032

cccggtcga ccacgcac caagaacgcg tgggcgacg cgtgggcgga cgcgtaagac 60  
ggacgcgtgg gcgacgcgt gggcgacgc gtggcgacg tcaccttggg gattaccaag 120  
tcctctcctt ttcggggggg tgcactttat ggaagcacct gtttaggcgg atgaanggga 180  
gtcaaagggc aacgtggagc taggaaaagg tatactgaca gacacgagtt ggaacttgcc 240  
cttgtcttca acgggaagac ctgtttctac ttccacagtc tcggacggta gtttgaaagg 300  
cagtgaagct cagcctgaaa gttcacattc tttttctact attagaacga agcaacaa 358

<210> 4033

<211> 269

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-A10

<400> 4033

ccacgcaac cagaatagga cagccaatag cagatggatt gaaaaaatg ataaaagagg 60



gagtaaagcc aacaagagca gagggaatga tgtataaagc agggccagta gtaacatggg 120  
 ggtggtcgat gctaggatgg agtgtagtac cggggaggag aacgaaaggt aatagtggat 180  
 atagaagtgg gaataatagc atggatgagt ataggatcat tgggagtata tggagtagat 240  
 gaggaagaa agatcaagga agtaagact 269

<210> 4034  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-A12  
 <400> 4034

cccacgcgat ccagaggttt atgtgccatt gcgcaagcag aaagtatgcg gtacaagttg 60  
 ttgggtggat tggctgtgcg tagagcttgt tatggcgctc tacgatttgt gatggaaagc 120  
 ggtgccaaag gctgcgtcgt cactgtaaat gggggggtga gagctcagag agccaaaacg 180  
 atgaagttta cggatggata tatggtgcac tcgggacaac cagtcaagga ctatgtagac 240  
 actgcagtgc gccacgtact tatgcgtcaa ggagtgc tag gtatcaaagt taccatcatg 300  
 ttgccgtatg acccattttt ttttaaaggt ccttccacaa cactgcctga ttatgtgcaa 360  
 atttaccaat caaatgaata caaagttcc 389

<210> 4035  
 <211> 71  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-016-Q1-E1-A3  
 <400> 4035

tagaggatca aggccggggt acgggtgcat gagacgtagt agctcgggga gantggggcc 60  
 taaattcaat t 71

<210> 4036  
 <211> 270  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-A5

<400> 4036  
 cgtcaacccg aagctagttg atcttatgca gtccaagcaa agtaaggctg aaccagtatc 60  
 tgtggaaaaa gatttggaag agatggcata aggggtgaaa ggccatgoga agctagggat 120  
 agccggtacc gctcgaaggc gatataggta gcgtatgcag gaaagaagaa ggtaaaggaa 180  
 gagaaggaac aagcagagag ggactatgag cgagaagggtg gatagtcgag agggaaaaaag 240  
 cccagaagcc aagataagggt atcaaagtaa 270

<210> 4037  
 <211> 193  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-B10

<400> 4037  
 ccacgcgtac caagcatggc tttggcaaca tagggacaac taaaaacagt ccttattcgc 60  
 atgaaacctc cagtatctca cgtggcttgc acacatgtat ggcttggaca acgttgtcaa 120  
 gggggtacgt gcgagtcac acgatcgctc cgggggggggt tacattgccca ttctgcaca 180  
 aatttcctaaa tgt 193

<210> 4038  
 <211> 458  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-016-Q1-E1-C11

<400> 4038  
 gaccacgcg accacggacg cgtccgcca cgcgccgcc cacacgaaa agtatcggt 60  
 gaacagcctg tgtatgaggt tgaaaagaag accgcagaat atgagataag aaagtacccc 120  
 aggtggggaa tagctgaagt tcatcgttca gacgggaggg aaagaagaat ggctcggcat 180  
 acgactttga gtcgcaagca tttcgagtgt tggcgctgta cattgggtgta tttggagaac 240  
 ccaaaaacaa acatagctcc aacacgcatg ttaagatagc aatgacagca cctgttttat 300  
 cacagcccat aggggtccgtg ttttttttta atggacgaca gcagtctagc gtttatattg 360  
 cccaaggagt atgcacagca acaagaacct ccacagccat tagaccacg agttcacttg 420

cgtattgtac ctgtcacaaa aatttcagcg actacttt

458

<210> 4039

<211> 207

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-016-Q1-E1-D1

<400> 4039

caggaaaggt tcattttggc gttatatatg gtccggcaat cgtacgaggt ctttggattt 60  
atgcgatcgt aaacctgagg anttgggaac gtttgactt atacacaact gtgagtattt 120  
tagggctactc tttagttcca atcgatcatat tgctgttctt gctgttgggt ttgtttctta 180  
agaagtcgtc cttgttacct tttattt 207

<210> 4040

<211> 379

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-F11

<400> 4040

gttgccacta tattgcttca aagaggggact gagaatatga tggacgatgt tgaacgtgct 60  
attgacgatg ctgttaacgt atttaaagtg ttgacggggg ataataagggt tcttcctgga 120  
gctggagggg gagagcttga gttggcccggt cagatctctt cgtttggaga gaagagccct 180  
ggtcttgatc agtatgccat aaagaaatat gcagagtctt tacaagttgt tcccacgacg 240  
ttggctgaaa atgctgggct caaggcaacg gatgtgggta gtcctcttta tttcttttat 300  
acgtcaggac acagcacaac tggatttgat attgaagctg gaagtaacat gcacgaagac 360  
gttgctggtg tctccttgt 379

<210> 4041

<211> 257

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-F5

<400> 4041

aatattttca attggatgag gatccctcgg ttgccgaatc tgaatttcgt ttggtcacga 60

atgctgttgg gggggcaggg aaacttaggg aaacgaacat tggggacacg gggtttacaaa 120

ccttgcccc a gttgttgaag aatgtccact cgtcaactta tcaagtccat ttctacaaga 180

catattttca gttgatattg aacgatattc tcgtggtacc ctacagatac tttgccaccg 240

cctgtgcgta aatatca 257

<210> 4042

<211> 366

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-G12

<400> 4042

accacgcat ccagcgaacc tatcccaaca tagtagacaa taataagaaa ccattctagt 60

atattttaaa gcaagatgat acctttatca aaggattcca acgtccagta aagagacgac 120

ggggctgcac aaatgtcatc atcatcttga gaggggcgtc aatcttgtcc aaagagagat 180

tggtggccat ccaacaccac aaagcagcat ttcccaggat agaaacatcg tgggaacaga 240

atggattgaa gtcgcgtctc tgtttatgat agaaatcata tactgtccgt tttatgttgc 300

caaaaataca aacattttatt cttccttagt ttgtaaatat atgcaatcag gaggatattc 360

ggactc 366

<210> 4043

<211> 430

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-016-Q1-E1-G9

<400> 4043

aattcgccgt tcgaccacg caaccagtcg gcgtgcgatt tgtagaccat ccgcacttac 60

tatgggttgt tctttttgtc ggatattcat attctgaaga gcatttttcg catatacgaa 120

aaacttttct atgggggggtt tttatatgat tcctaattca atggggaggg gaaagaatgc 180

tgaagagccg gttccacgtg gaaccaaagg cggttttgta tctgccttga aaactagtac 240

tttgctcttc aaatatagct gtacaatgtc gccaaattta acttgtacaa tataactcaaa 300  
 aaaacaaaca aaatccaagt tcgtaataat ctctttattg tactcaaggg gccagaaatt 360  
 gatcaacaaa acatgttcaa ttatccctta acactacata tcaaccagtt gctgatattc 420  
 aagaattttc 430

<210> 4044  
 <211> 122  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-A1

<400> 4044

tccgggtgac ccacgcgtcc gctatcgcgt cctctcactc atctgccac gacgtccaaa 60  
 aaagggttca caaaactcaa taccacatt tcaggctgct acaccggtaa aaccoccttta 120  
 cc 122

<210> 4045  
 <211> 325  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-A9

<400> 4045

gacgcacgcg tcaaccaca agtccgcatt tacgctcatt gcaaattgtgt atgcccgaga 60  
 gattctaaat tcgacatgaa atccgatagt tgaagttcat gtcactacag atctaagtgt 120  
 gactcggaca actgttcctt ctagtgcgtc aacaggaggt tacgaagctc acaagttgag 180  
 agataacgac aaatccaggt atcaaggaaa cggagttaca actgcaatac agtctgtcaa 240  
 taccgaactt gcaatacctg tgattggtaa ggattgtoga gatcagacac cgattgatcg 300  
 aatgatgatc tctttggatg gaatt 325

<210> 4046  
 <211> 339  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-C10

<400> 4046

gcgtcagctt atatggagtc acttattcgc agcgaaaaac aacaaataga aaagcaaaaa 60

gaaaagaaac aaatgaagga agaaagagag ttccttatgg ataaaatatt tacactgcag 120

ggtggaccaa gatcctctcc accaggagag gaggtcacao agccaagaaa aagagacaag 180

taaaaagata aaaaagttat cgaaaccaat agtaaaaaaa caaaagacaa aagacaggcg 240

aaggcgacaa aagataagga acagaatgca acaagcagtt gctatgttga gcagtttagac 300

ggaataagtt ttacggatgc aggtaccttc aactttgtt 339

<210> 4047

<211> 351

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-C11

<400> 4047

gcgtccgccc acgcgtccga caagacgggtg agtcatccga agaaactgaa aagcgtcaat 60

gccattcaat gggcaccgca ttccgcttcg catatttgtt cggctggaga tgatggtcgg 120

acgttgatat gggatgtttc tgcgattcga gggcctatcg aagaaccgat tctctcttat 180

cagtcggata aggaagtga caatttgcag tggtcggcag cagatccgga ttggatagcc 240

atagcgacgg gtactaaaat gcaaatattg cgagtatgaa agtggttaact ttacaaagca 300

atgttgatgc attgtcgtaa tatgacgtaa tgatacaaag gcactactaa a 351

<210> 4048

<211> 351

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-D5

<400> 4048

cacgcgtcaa agaatgaaac gtcactccag tattcaaaaa gaattacctg aattagaaca 60

aaaacttgcg caaggtgcca tatcacctcg aaaagctgcc ttgactttgt tggatatcgt 120

ttgtggaggg cacattctcc aacagacaat taatcagggg gcgttccgaa cattcttttt 180

ctctacttgt gaagtattga ggcaattcat atcactactt ggatgattat ctgtacaaca 240

ttcttgatca caattcactt gaattgtcga atgaacgata ccaaaacgct ttcgtagtat 300  
 ttcttgagca gttaataaag tgttttttat ttcactcgca aaacaaaaag c 351

<210> 4049  
 <211> 329  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-E3

<400> 4049

gcgtccgcca gcacgtccgg gcagagaagt tgacagagat caaagaaaaa gttgccgata 60  
 aaataagtga aatgactgga aacaagtcac ctcaggacca ggcgaaggat aaagctagcg 120  
 agggggggga ccgtatgaag gatgcaggaa gtgcgggggg ggaaagtgct caaaatgcag 180  
 gggacgccgt caaggataag atgtccagca tgaaggagtc tgtttccaac aaagcggaag 240  
 gtgtgaaaga aggtctgcaa aagtagatac tccgaggta tctcatttgt ttcgtcctgt 300  
 ttgtgtttaa ataaaaattt gggttttttt 329

<210> 4050  
 <211> 347  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-F10

<400> 4050

cgtcaaccca cacgtccgta gcagtatggc acccaaagga tccaaaagtg taccggttgc 60  
 tggaaaaaag cccattggta aagcagaaaa gaaaaaagcc aaaaagaagc gtgcagaggc 120  
 ttacagtatt tatatttaca aagtgttgaa acaagtcctat cctgacactg gtatatcttc 180  
 caaagcaatg agcatcatga attcctttgt caatgatata tttgaaagga ttgcttccga 240  
 gtctagcaag ctggcagcat actcaaagac aaaaactctt acttcgagag aaattcatat 300  
 tgtttgtacg ccttttggtta cctggagagt tggccaagca cgcagtt 347

<210> 4051  
 <211> 96  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-H11

<400> 4051

atattaatttt tttaagcttt taacagtttt gtaaataatat tcacgaaaag ctgatacgcg 60

ctgattaaat atcagggtttt tgaaaacaaa caaact 96

<210> 4052

<211> 256

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-H12

<400> 4052

catcaagcgt gagactgcag agagtggaat cgaacaagaa caacaccatg gcgagccgat 60

tttaactttcc atttcttggt tggtgattgg ccaattccca acggctcgac gtgttgggggt 120

ataaatcgta gcgttcgctt cggtgggagg catgttcagt tggttgtaga tggaatcgtc 180

catgaataat aaaccaagca ccaagccata aaaaaaatt ggacataaat aactaaaaa 240

tcagaccaaa ttcaac 256

<210> 4053

<211> 434

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-017-Q1-E1-H8

<400> 4053

cacgcgtcaa gaatacttta tcataaaggc cggtggtgaa gatgaagttg ctcacgtacc 60

actttttaca atgtcccaaa accaaaacct ttcctttggt attggagcct actcaagtag 120

aagcgagaga aacagaatat aacaaggaat ttagcgtgcg catgattcct agactagatt 180

ggaacctggt tcgacaagta agtaaacagt ttgcgtttgg tgaactgcca ccagtagctc 240

cccacaacga cacaacggat gaagaaactt tacgaatgct tcacaagttg ctattggaga 300

cgcatatcaa ggaaggagtt ctcatagtc aagatggaac tatttatccg ataaaagatg 360

gcattccaaa tatgctcata acacaagtca accaagacga gtaaagaaaa atagatattt 420

ggtttaaaac aaac 434



<210> 4054  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-018-Q1-E1-A2  
  
 <400> 4054  
  
 tactggtcta cgaattcccg ggctgacca cgcgtcagcc cacgcgtccg attgcccttg 60  
 tcgtctaaca aagacacacg ttaaccttgg tccattacta ctaggaatga cccttcgtaa 120  
 accagtcttt accaaagtag agggactaca acccgggaca caggggcaca acgggatcgt 180  
 tcaagtgatg aacgtcgggtg aggttatgga aaaagtgaga ccgagtgggtg acaaactgca 240  
 aatcgccgaa gtgctacttg cagatgaaac tggagcggta ttatttacag caaggaacga 300  
 ccaaatacaa ctttttaaaa agggagagtg tgttaccgtt cgaaacgcaa aagtcaatat 360  
 ggtgccaggc tttattcctt tactagttga caaatgggg 399

<210> 4055  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-018-Q1-E1-A4  
  
 <400> 4055  
  
 tactggtcta gaattcccnng gctgaccac gcgtcaacag tctacttcat tttattgctt 60  
 gtcgtaaaaa cttctggtac ctatgcttct cctttattcc atacttatcg ttctcctcgt 120  
 aacgatacga ttgctgcaga gggggacaag atgaaaaact tcacaactct gtgcagtcta 180  
 cccaaaattg ccaatctgac tagtactttt gaaaacgctt ctcttgagct tacgctcttt 240  
 gcaccaacac acagcggaat ctcttcaaca ctcaaagcag tgaatatttc ggcaagcccc 300  
 atatacaaaa acaccactct ggtaaattatt tttttctagt atcatgtcct acctgagcca 360  
 ttaaagactt ccaaattctc cgc 383

<210> 4056  
 <211> 374  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-B2

<400> 4056

aattccgggc cgaccacgc gtcagccac gcgtccgaga gagagaagaa agaaaagaag 60  
agaaaagccg tactgaagac cgacacaggt actcgaggag aaaggagacc caaattaagg 120  
tgagagaatg ggcgataagg aactaggcaa aaggatatgg gggctgcggt agaacatatg 180  
aaagaagcag caccgactgt ttagcaaaaa cacagcactc tgcagaaaag agaaaatgta 240  
aagtatagag tgtgcggcct gccaaatagt agagaagaaa tcgatgaaag tgaaagcgag 300  
taaaagatga ggtatagata atggcggtcc taacggtaag gatccaaagg tagcgaagta 360  
aatagacggt tgaa 374

<210> 4057

<211> 268

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-B3

<400> 4057

accacgcgt cagccacgc gtccggagaa aagaaaaaca aataaaagga gtactacaag 60  
gagcgaacat aatgggagca ggaatggcaa cgatacgttt accacgagta cgagcacggg 120  
tggcaataat atttggaggt ttgatgaagg gggatgcaag gaaccacta ttgaaccaac 180  
acttatttgg atacacgata ttaaggtttg cgttaacaca cgcagtacga ctgtttgcat 240  
tcatgatcac ttttttacca ctgttttc 268

<210> 4058

<211> 393

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-B4

<400> 4058

ttcccgggcc gaccacgcg tcagcgtcga ttgacagagt ccaagtctca agtaacacat 60  
gaatattgtc aaattcaatg tcaactogat aaggtattag agttgcggaa tatttggag 120  
aaggaaaggg agtgtgtcta tttccgtaaa tgattttgtg ggtcgagcta ctgcacttgc 180

attgagacga gtaccagagt tgaatatcgt ttgggatgaa gcaagccaaa gtgggaaacg 240  
aatggaacga gtcgatatct ctatggcagt tagtattgaa aatggcttga tcacaccaat 300  
tataacggac gcggatattt tatgaataga agaaatttca catacagcca aagagctcat 360  
tatgaaagca cggcaaggca aactgaaacc tga 393

<210> 4059  
<211> 412  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-018-Q1-E1-C2  
<400> 4059

tactggtcta gaattcccg gccgaccac gcgtcagacc aactgttatg aggacgacga 60  
ctatcgaaga cgacctgttg cttttcaaag tatttcgtct gtcttggtcc accgcacacc 120  
acaagtattc atatcgaaag ggggagttgg caccgttgca cgtattcctt cgggtcctct 180  
ttgtgctagt gggaaatata gtctccgata tagacaccaa ttcataagcaa ctcttttatg 240  
gtctactcgt ttcaaaactg ggaaaagaga tgagcgctac aaaagtatca agtaacgtcg 300  
ggagcgttgg aagacaagac agaggatgga tgtatcgaca attctatgga cacagtcaac 360  
tcagagcagt cgaaaataac gaccgaggaa gacggttcca cagagtcccc at 412

<210> 4060  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-018-Q1-E1-C4  
<400> 4060

ttcccgggcc gaccacgcg tcagaccacg cgtccgccca cgcgtccgcg atcgataata 60  
ttctgatggc acttttcttg aataatagcg gcggtgcatg ggacaatgcc aagaagtata 120  
ttgaaacagg tgcatatggt ggaaaagggt ccgaggctcg gggggctagt gttactggag 180  
atactgtggg tgatcctttt aaagatactg catggccttc cttacatgtc ttggttaaata 240  
tactatccac cctcacactg gtgtttggtc cgctgttctt gacttctgcg ggaatagaag 300  
tcatttccgg ctatttttta ttaccttaca tatcttcttc gtgtctctct tgtgcttttg 360

tttatagcag cattaaacca tattgttttt 390

<210> 4061  
<211> 362  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-D12  
  
<400> 4061

accacgcgt cagagaaaga ggcaaatcgg ggaagcagt aaaagaaga agagaaagga 60  
aaaaaactga gtatcaggaa gaaaagaggg agtacatgag gaaagaaaga tcagggaagg 120  
gagagtaaga gaaggagtaa tgtgaatgag agcaggaaag tatttgaaga agagagtgt 180  
aagcgcgtac cttttgcata atgtcccagc gaggtaaaga ggaagcaaaa agaaagaaaa 240  
agaagtagcc aggtaagacc cgaagctagt tgatcttatg ctgtccaagc gaagtaaggc 300  
tgatccatta tctgtggaaa aagatttggg agagatggca caaggggtga aacgccaatc 360  
aa 362

<210> 4062  
<211> 387  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-D2  
  
<400> 4062

aattcccggt cgcacccagc cgtcagccca cgcgtccgag aaattgctgg acttggaat 60  
ataaacgagg agagtcaagg agacttgtga gcctatttgg aaagcaaaaa aaagacaaag 120  
tcaccactcc agacctaagt tctctttgtt ggtggcggag gcggtggtgg tggagcagga 180  
gaagctgctt tggttccatt ctgtaaggca ccacttttcg gaagaggagg aggaggaggt 240  
ggtggtggaa gtgttgttgt gtgtgtagct gcactattta cattctgttt atccgccagg 300  
ccgtcaggtt gcggtgaatt attagttact gttgttgttg ttgtttagtc tgcactattt 360  
acattctgtt tatccgcctg gccgtca 387

<210> 4063  
<211> 394

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-D3  
 <400> 4063  
 aattccccggg ccgacccacg cgtcaggttt tacttcttac cgtgaaaggg catggaaaaa 60  
 cgtatacaga aaaagttact tttattgtaa gagatgctgc gcaacccgaa cacgaaagcc 120  
 ttcaagaaga ggaatcggat gaaaattgca tcgtgcttga ggggcatttt ccaaagaatg 180  
 aagcccaaca ggctgctgaa ctcgtgtcac catcgacttg agtcgagctt gaacaaacaa 240  
 caaggaagaa ataacgtcaa ctccaacaac tggtagagact attattatta tgtttggaag 300  
 aaagagaaac aaaatgctta tctctcgtca atatctcgat gacctattca ttcttccttt 360  
 gttttcctct cttttgtgct gcaatatata gtac 394

<210> 4064  
 <211> 360  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-D4  
 <400> 4064  
 attccggccg acccacgcgt cagccccacgc gtccgcccac gcgtccggaa aagacatact 60  
 gaagaccgac acaggtactc gaggagaaag gagacccaaa ttaaggtgag agaatggacy 120  
 ataaggaggg aggcaaaagg atatggtatc tgcggtaggg gatatgaaag aagcagcacc 180  
 gactgttttag caaaaacaca gcaactctgca gaaaagagaa aatgtaaagt atacagtgtg 240  
 cggcctgcca aatagtagag aagaaatcga tgaaagtga agcgactaaa agatgaggta 300  
 tacagaatgg cggtcctttt attaaggatc caaaggatc gaagtaaata gacgtttgaa 360

<210> 4065  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-E1  
 <400> 4065  
 cgtactggtc taggattccg ggccgaccca cgcgtcagcc cacgcgtccg cggacgcgtg 60

ggcccacaag tccgcccacg cgtccggagg caaatcacgg aaagcagtaa aagaagaaag 120  
 agaaaggaaa aaactgagta tcaggaagaa aagagggagt agatgaggaa agagggatca 180  
 aggaagtaag agtaagagaa ggagtaatgt gaatgaaagc aggaaagtat ttgaagaaga 240  
 gagtgtaaag cgcgtacctt ttgcataatg tcccaccgag tgaaagagga agcaaaaaga 300  
 aagaaaaaga agtagccagg taagacccga atctatttga ttttatgctg tccaagcgaa 360  
 ctaaggctga accagtatct gtggaaaaag atttg 395

<210> 4066  
 <211> 295  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-E11

<400> 4066  
 acccacgct caacggacgc gtggcggac gcgtggggtt tttaaaacgg aataaatatt 60  
 tttatttttg cttgtaaaga caaactgttg tgaattctat acgttggtat tagggtggga 120  
 cctctctcgt tattaanaagc tgggcagggg caaccagtgt tggttgaact gaaaagtgga 180  
 gacacttaca atggtcactt ggtgaacatt gactcctgga tgaacttgaa cttgagagac 240  
 gtagtttgga cttcacgtga aggcgaccgt ttttggaaaa ttgctgaaat ttatg 295

<210> 4067  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-E4

<400> 4067  
 attccgggcc gaccacgcg tcaggtcctt cgtccctcgt cgtctcctcc aacaagtacc 60  
 aaaacataaa atagaaaatg gcaactttac tatccaaaaa agaagagca gtagccgacg 120  
 gtgttttcag ggcagaactt aacgagtttc tgatgcgaga ggtgtcggaa gagggatact 180  
 ctggtgtaga agtgaaaccc acgcggttgc gaacggaaat cgtgatccga gctaccagaa 240  
 cacaaaacgt gttgggagaa aaaggctgaa ggattagaga actcactgcg ttggtacaga 300  
 agcgattccg ttttctgat tgaacagtgg aactttatgc ggaaaagggt gcggatagag 360

gtttatgtgc cattgcgcaa gcacaaagtt 390

<210> 4068  
<211> 98  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-E9  
  
<400> 4068

caaaggatcc aagcttcact acgcgtgcat gccacttcac agctcttcta aactttcacc 60  
taaattcaac tcactgttct ttttttcttt ttcttctc 98

<210> 4069  
<211> 350  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-F11  
  
<400> 4069

accaagcgt caacaattgt tcattccacc atactctact cctatggatc ctaaatgcga 60  
aaattgtcat aaagcagtgt atatggccga gaaagtgacc gttgatgaaa acagggcagg 120  
tcacatgggt tgctttcggt gttcaacttg caaagtgaaa cttagcctcg gaaattacac 180  
actgttagat ggagttctct tttgcaagcc gcactttcat gaagcatttc tttctgctgg 240  
aacatatcga gcaccggaca acaccaaaaa gaatatcgag gaagcttcaa ctaatgagac 300  
tgattattgt gttgcgtcac aaacaagtca aatattatca tctcaaactg 350

<210> 4070  
<211> 383  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-F12  
  
<400> 4070

ccgggccgac ccacgcgtca gccacgcgt ccgagcagct tctgtgttgt atcatgtgca 60  
ggaacacgag tcaccagccc gatctttcac tattacctcg aggggaactc ttcttctgga 120  
aaaaagtcaa ggttccgctc gtggaatagt gttgtgtgag gcaagttttg aacatcgag 180

ttgttggatg cacttggaaa agtgtttaaa gacaggaaac aaggtagttc gagatgtatt 240  
 tggagaggat aactattttg atgcttttgc aaaagaaaac tcgcaacaca aagagttttt 300  
 aaaagtcttt cattaaggga tggcttccgt gagcgagttc gacacgcat ccaccttta 360  
 tagttttgac ttttcaaagt ttc 383

<210> 4071  
 <211> 264  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-F3  
 <400> 4071

taccggtcta gaattcccgg gccgaccac gcgtcagaac gaggtcggcg aggttttcga 60  
 acgattagca aggttatatg gaccgttttag aaaccttata aacaggaaaa caagagcgtt 120  
 ttcctgtgaa acaacaaaaa agggaaagta ctaagtaata ctaacagtac tggggcactt 180  
 aaccttggga aaagacttgt tgtacttttg tggttgttat tgcttgccgc tacgtgagaa 240  
 atgaccggag ccaacgacaa aacc 264

<210> 4072  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-F5  
 <400> 4072

ccacgcgtcc gtaggccttt gtcgtcgtcg ttacggttta cgattgataa tgcggtttgg 60  
 atatggcaga cccccaact gaaagagcgt ttcaaaaaca ggacgctata tctttaaaagc 120  
 agatcgcggg agtatccaaa aagaatgcaa gatggtaggg gaatattggg ttaggaatca 180  
 aaacacccaa ggaagccata gagggagaat atatagacaa aaagtgcctt ttacgggaa 240  
 acgtgagtat tcggggaaga attttgagag gaacagtggg ttcaacgaaa atgaagagga 300  
 ctgttatcgt tcgaagagac tatcttcact gggttcgcaa gtacagacga tttgaaaaga 360  
 gacacaggaa tattccagca cattgctctc cttgctttcg cgtgagagaa cgagacgttg 420  
 gtaccattgg agaatttccg ccgttatcca agaca 455



<210> 4073  
<211> 388  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G1

<400> 4073

attccccgggc tgaccacgc gtcagaaact ttgcactcac acattgaaga gcaaaaaaat 60  
aggatgaaga acttgataca gggtcagatc gaggagcatg aaaagattct gtttcaatta 120  
gaagacgctg ggagtccttt gcgttccatg gaacgtgatg ggaataaggc cctccttgaa 180  
gtgcaagatc gcataagaaa tgcaacaaaa atttgtgatt cctggaaaga aatcaaaact 240  
gccttggacc aaggactgaa attttatcac acggcactaa caattgccac gcaactgaaa 300  
aataatgttg aaactatctt ttaataattc cagttactga gacttagaac atgtatatag 360  
ctaaaaaat ggattgttta tccggatt 388

<210> 4074  
<211> 382  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G12

<400> 4074

ctccccgggcc gaccacgcg tcaggtgctc agtcagaact gcttctcagt tagatacgca 60  
atatgcctag tcataaggaa caaaataaag gaattaaaat atcagctgac ggttacgcac 120  
tagggttggg cggatattcg ttggacgtac acggcagttg ggtcactatg gtggacgcag 180  
acgacctcag agccctcatg tttaaggaaa gcctcaagga aaagtcaaag ctgcatgacc 240  
caaaatcttt caaaagctat tatgaggaga ataaggacta cttttattat atgactcata 300  
cggagaataa aatgtttctt tccccggaag ttgcacgaga atacgctact ctggtgggaa 360  
actcgtttct gcacaaatat tt 382

<210> 4075  
<211> 384  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G2

<400> 4075

aattccgggc cgaccacgc gtcagcaaca tgtctttttt gaaacgtata cagtcaaacc 60  
tgctttccaa cagaaactca gtaacaaaga caagtaaggc caattacgac ataaagcacg 120  
ttcgagtttg gggctgggac cctgaaaagg gagaagaacc gggattgggt acctactcga 180  
ttcctctcaa agaatgcggt cccatgggtg tggatgcctt attcaaaata aagaatgaag 240  
tggactctac ttttgtattt agaaggtcgt gccgagaggg aatttggtga agttgtgcga 300  
tgaatataga tggaaataat cgtctggctt gtttaactcc gttagcagga ccgaagcaga 360  
cagtgactgt atatecttta cctt 384

<210> 4076

<211> 371

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-G4

<400> 4076

attccggggc gaccacgcg tcagacagtg tgctgtaaag ggtctgagct ttacaaatct 60  
gcatatgcaa agctcagtcg caatttctac tgttcatgga ggaagattca cgcaacagta 120  
acgtcttttg ccgactggac ggaaacaagt ttcggagagg ggctttattg ggtgcaaaag 180  
gggtcgggaa gtcatccatt gctaccgct ttgcagaaga cacctttttg gactcgtacc 240  
ttccaacat acaggattcc tatcacgcga cttgcagaca caaaaacgaa acttacaact 300  
tggagatatt ggacactgtt ggacaggacg aatattccta tctcggaaca cagctgacta 360  
tcggagtaca t 371

<210> 4077

<211> 395

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-H1

<400> 4077

taccggtcta gaattcccgg gccgaccac gcgtcaggaa tcctgcaaag gccaaactgaa 60

agcgcccata tagttgttat tctctactgt ttgttgcccc ttgttttaag tgaacaacag 120  
gaaactcctt ctttaccttc cgggacgttg actagtgcgg ctgaagtgtt caggggaagat 180  
gcacctcacc cgttgagtag aaaccttcct tcttccaaag agatagaagt agcatattct 240  
tttagtggtg caacggatga aaaaagtata cagcctggga ctctggtaga ttgttttagtt 300  
ggagtggcaa atggaggacc ttttccatat cgaatattag cagttgggtg agctttgcac 360  
tcccctttgc agtttaacta ttatgttcaa aactt 395

<210> 4078  
<211> 323  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-H10

<400> 4078  
gtcagcgtg ttggtcactt gtagaatgac ttgtaacaca tgagccaaat gccataataa 60  
atgtcactgt gcttgactcg ttctacctta tttatgtagt attcggagcg ggcagcagtg 120  
gtacaaacgt gaaggatagg ggtccctcgc cgtcgtggca acagaatgtg gttttgtgag 180  
gtttttgtagt gttagttggt gtataaaaga attggaatag aataaaatat gtttcgcgcc 240  
tattcttcta caacaaacga ctaaacaact aacactgaaa aaaaaaattt tttttttttt 300  
ttcgctctac aggatccaac ctt 323

<210> 4079  
<211> 342  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-018-Q1-E1-H3

<400> 4079  
ttccccgggct gaccacgcg tcaggattcg tcgcaagtct ttgaaaaaaa gacaaaaaag 60  
ttcaaacgtt tccagtcgga taggtttaa agagtcaagg aaagctggag gaaaccaaaag 120  
ggaatcgagg gcagagtgcg tatgcggttc aaagggtcgg ggttgatgcc caagatcggg 180  
tatgggacag ataacagaac gagacacttg ttgccaaacg gtttccacaa gtttgtacta 240  
aataatgtga aagaattgga cgctctactt atcttgaacc gcaaatatcc accacaaata 300

gcgcacggag tatcttcttt taagatgaac gaaattttgg aa

342

<210> 4080  
<211> 390  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-H4  
  
<400> 4080

atccccgggcc gaccacgcg tcagcccacg cgtccgggag caccttgacc gccattggca 60  
tataccttac tcgagttact tgactgtaag tgatattggt gtagctcttt tgcgttatag 120  
aggtcacgga gacagaggag caagggcgag aaacttaggg gcaagcgaga gaaccttcaa 180  
cgcttggtt cgttcagggt taggagccat ggctttagga acaatagcct ctagatatat 240  
gtatacagca gttggcaagg ctgcagctat tttgttattc tgtcttggtg ttctcattat 300  
tttgtactgt ttgggtccgac attatcatat agttttccaa gtagaggaag acattttgta 360  
ttccactact gttcttcccta gaacattttc 390

<210> 4081  
<211> 386  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-018-Q1-E1-H7  
  
<400> 4081

ccacgcgacc gaaagagaga aagagaaaga gagcgactg cacagcttaa gatgacgacg 60  
agggtggtgga aagtaacctc ttcgttattg cgtttatcaa ctcgagttac cacacttcgg 120  
acctctgtgt gccaaactctt atccgaaagc aagtttgagg catttgaata cttccaactt 180  
aaagttgagt gaagaaaagg aaactttcca ctttatgcc a ctgtcttaca acgaagatgt 240  
gagggcagtt tcaggtatat atgcacctga tgaacctcct caggctccac tacctttaga 300  
ttatgagttg aacggggaat gtgacttttc tatacagttg gatatgcacg aggacgtttc 360  
tgatagagaa gcagctatat gagttg 386

<210> 4082  
<211> 375

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-018-Q1-E1-H9  
 <400> 4082  
 acccacgcgt cagcacgaca cagaatggat acttttttaa tatatgactc caccagtcaa 60  
 cgattcgggtg tagctgctga acacgtttat gacgtaaacy aaaataccaa gttgcgttgg 120  
 ggtgggaaag ttcgtcacgg agaatcgggg gcggcaggat atgtcattgc cgaatatgac 180  
 tttacggttt ccaaagaaga ttttccgata aacgttcgtg cacgtgcat atgtaaaagt 240  
 aaccagtgc tggcgatat tctgtccaaa aagaagtttg aagtggacga agacacttct 300  
 ttattcttct tagccaaagc ttgtactcag gaactaaca aaggaagtta tattattggt 360  
 aaaacctgag tgaca 375

<210> 4083  
 <211> 358  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A1  
 <400> 4083  
 taccggtcag gaattcccgg gccgaccac gcgtcagcct ctccaagaag gtgttgacag 60  
 gctgtcgaaa gaactgctg tgaagtgaga gaactacga gaaagccaag tgaggaaaag 120  
 aaggcaagta gagggcgcc cgagaaaaaa gagggcgtaa gacgtgatac agagtaggaa 180  
 gaaaagagaa gagagctaga aaggaggtaa aagaagagta aaaggactag aagaggtacg 240  
 gaattcacga agaaggagcg tgaaggaagg aggaatccca agtaatcgag gaagaaaaag 300  
 cttcggtgaa agcgtgaacg gattttgtac aactgcccg tcaagttctg gaagtgtg 358

<210> 4084  
 <211> 314  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A4  
 <400> 4084  
 acccacgcgt ccaccttaat taacaatcca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60

aaaaaggaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagggaag acgctccaaa 120  
 ggtcttaaac attacgtaac ccatcaagaa aaaataagaa tttcttcaa atggtacct 180  
 aaattaaatt ccctgggcgt tcttttaaaa aaaaggggg gggaccccc aggtttttac 240  
 cctaatttaa cccttttgca aaaaattcac ccttttcaa aggggcctaa aaatcaaatt 300  
 tccgggccct tttt 314

<210> 4085  
 <211> 403  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A6  
 <400> 4085

ggtaccggtc aggaattccc gggccgaccc acgcgtcaga tcttgtccaa gtgagaatgg 60  
 cggcaaagaa tgaaaactct tggtgtatgc ttttgcaagt gaagagacta agcaaggacg 120  
 ctgttggtacc tcaaagaggt tcgaaacttg ctgcagggtta tgacatttgt tcctcggaag 180  
 actgtattgt accagctcga agtcggtact gtgttaaaac tgacttggca gtggcgattc 240  
 cctcgggaca ctatggaaga atagcaccca gatcaggact tgccttaaag catggaatcg 300  
 acgtaggagc tgggtgttata gatgaggact atcgaagaag cctcgggtatt attttagtta 360  
 atcattccga agaggatttc catatatcca agggaaatcg aat 403

<210> 4086  
 <211> 345  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-A9  
 <400> 4086

caaaaagagt caacccttca cttggtattg cgtttgaggg gtggaatgca gatatttgtg 60  
 aagacactta caggcaagac cattactctt gaagtggagc cttcagacac tattgagaac 120  
 gtcaagtcca agatacaaga taaggaagga atccctccag accagcaacg tttgatattt 180  
 gctggaaagc aactggaaga tggtcgtact ctttcagact ataatttca aaaggagtct 240  
 acccttcact tgggtattgcg tctgaggggt gggttgctaaa tatttcagca agtagtttag 300

tttagccctt attttctgaa taaatattcg cagttcttgt caaaa

345

<210> 4087  
<211> 394  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-B2  
  
<400> 4087

ggtcaggaaa tcccgggtcg acccagcgtc ggccaaccct tcggccaacc gttcggcaaa 60  
aaaatggcaa ggaggttggg ttccttaaaa tcagttaagg aatttgcctt ggtctaattc 120  
ctgtgcttat atcgttgccg ctatttttgt gcatgtttca ggaaattggc gctatatgct 180  
cgggagtact ttggtatttt catctatatt actgatagcc atgcttacat taccgaaac 240  
ccctcgttgg ctgatgagaa aaggaagaga ggggcagtcc tataaagtat ggagtattgt 300  
gcgaggattt gatactgaag aagaaagaca ggagtttttt gtgatgagaa agacggtgga 360  
acgggagttg gaagagtcta aaaacagata tgtc 394

<210> 4088  
<211> 416  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> unsure at all n locations  
<223> Clone ID: LIB190-019-Q1-E1-B3  
  
<400> 4088

taacaggatg cattggcgaa tcagaaaata gtttgcgaaa aaatgttcgt gtcctactcc 60  
gttaccgcaa aaaacttacg ggcttggcac gtacctttcc aaagtccgtc ccccgaggag 120  
tggtctgaga gggggatggt tacgaaatgt gaaattttca accacanacg acctgcaaag 180  
ttgttatcta cgaaaatgag aggaggcgac catgaaagga gagaacttag tcgtcctatg 240  
cgtacgcttg attccgcttt cgacgaactt ttagcttttg cgcaggatcc ctggtccatg 300  
tttcgctctc catggagtct gtcgcccaga agtatggcag tagacacgtg gatgcctcgt 360  
gttgacttgg tggagaaagg aagatggctt ttatgcatac gtggaactac caggac 416

<210> 4089

<211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-B4  
 <400> 4089

ggtcaggaat tcccgggtca accaagcctt caaacggaat tcacaaggaa ggaccttgaa 60  
 ggaaggagga atcccaatta accaaggaag aaaaaccttc ggtgaaagcg tgaacggatt 120  
 ttgtacacac tgcccgctcaa gttctggaag tgtgctagga atgtgaggaa aagaaggcaa 180  
 gtagagggcg gcccagagaaa ggagagggcg taagacgtga tacagagtag gaagaaaaga 240  
 gaagagagct agaaaggagg taaaagaagg tgttgcacgg ctgtcgaaag aacgtgctgt 300  
 gaagtgaagag aacgtacgag aaagccaagt gaggaaaaga aggcaagtag agggcgggccc 360  
 gagaaaggag agggcgtaag acgtgataca gagtacaaa 399

<210> 4090  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-B7  
 <400> 4090

ccggggccgac ccaagcgtca ggcattgttat gcactttgtt gtcaagcaaa actgggtcac 60  
 gtaataaaaa tatgtagaca cggggatcgt tcgccactga acacttatcc caacgatcca 120  
 aaaccttacc atctctggcc aggaggccct ggacagttga cagctgacgg aatgagagct 180  
 catttcgaac ttggcaggca acttcgccga cgatacgtag attcagggtt tcttgaccaa 240  
 aatctgtccg tcaacgaggt agcttcagct ccttgctgtg aagccgtccc atctgatatt 300  
 tttatgggtg ctataggta aagttgtatc cagcgatacc gatcgtactc tcatgagtgc 360  
 ttattgtcag atggctggct taattcccta tg 392

<210> 4091  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-019-Q1-E1-C1



<400> 4091

tttttcaagg caacaagaat gcacctttta ttaagccaat gtggaaacta tcttttcagg 60  
aaccttgtct tcttttgggt cgtaaatctg cacataatca ggcagtgggt tcgaaggacc 120  
tctttttcct tctgggtcat acggcaacat gatggtaact ttgataccta gcactccttg 180  
acgcataagt acgtggcgca ctgcagtgtc tacatagtcc ttgactgggt gtcccgagtg 240  
caccatatat ccatccgtaa acttcatcgt tttggctctc tgagctctca acaaaccact 300  
cacagtgaag acgcagccct tggcaccgct ttccatcaca aatcgtagga cgccataaca 360  
agctctacgc acagccaatc ca 382

<210> 4092

<211> 84

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-C2

<400> 4092

cgggtcgaac cacgcgtccg tataaagtgc tgggcctgga aaagaacgct tccgagagag 60  
aaattaagcc cgcgtaccaa caac 84

<210> 4093

<211> 453

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-019-Q1-E1-D3

<400> 4093

ggtcaggaat acccgggccg acccacgcgt cagcccacgc gtccgaccgt cctgaatttg 60  
aaaatattta ctcatTTTTA caggacaaga gggtaccatt gtctaattatt aaggaatcct 120  
tgaagaggca acgagtacaa gatgacgaac acgacgaagg tttgggtgag gatgaggatt 180  
tagatgaaga agaagaagag gaagatgaag attttgatcc caacaagaag gaagaaagtg 240  
atcaggaaga aggtgggtggc tctgcacaga gtgatgaaga aatgtcagag aagagtgacc 300  
aagaagaagg cgatgactag atcatattct tggttggtaaa ctgtatttca atattctctg 360  
gcgacatgga aatattacga aacattgtct atcgataaat acgttgccag atgagaaaca 420

antctaaact tcaagaaaca catgttgaaa acc

453

<210> 4094  
<211> 405  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-D5  
  
<400> 4094

aattccccggg tgcacccaag cgtccgagtc attccaccag gagagtaaaa gcaagaaaga 60  
agagagaaaag aaacaccacg aaatggacag aaaatgtttt ttctacaact gctcacagat 120  
aaacgaactt tctggtagaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagggggg ggccgcccga 300  
aaggttcaaa gtttgtttac cctttaaggg aatgtaaac accttcaaaa gatgccccca 360  
aatttaaaaa agcggggccat tgttaaaaaa ctctgttacg gaaaa 405

<210> 4095  
<211> 431  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-019-Q1-E1-F1  
  
<400> 4095

ggtctagaat tccccgggccc acccacgcgt cagcgtttat tgttgctgca taatgagatg 60  
gaagattggc gagtatcggg agacggagtt gaccattgga ttcctcttta ttttcaacag 120  
gaggaaacct tccttttgaa gctggatttg cccatcgtaa ctgggttcggc gtttttaggc 180  
tttgttcttt tggttatgag ttccacctgt atgaatatta ctattccacc ttacaacagt 240  
ccacagatca tcaagatttg ggcagtattc ataagcattt tgggcttttt gttgctttta 300  
tccttttctt ccatgtttta ctggatgcga aaaaatgctc ctggaacgga cttatagatg 360  
cttatcgatg gagctttccg cgggtgaatg actttgaata ataaagttag gttgcttcca 420  
tttattacga t 431

<210> 4096  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-019-Q1-E1-G4  
  
 <400> 4096

```

ggtcaggaat acgcgggtcg agccacgcgt ccgcccacgc gtccgggtcgg tttatggttt   60
cttcgagtgt tggcggcaaa cgacgagttc aagggttggtg ttgcgtaacc tcgtgtcgac   120
ctctattgtt ttctttttct ttttcgtcca acgggaggaa aacgattact gctttgtaac   180
caagcagcta gtcactacaa caggacaggg tttttgggaa tatgtaaata tgaaagatgg   240
ttgtgttgtc catgtcgttg tccccaacaa caacaacagc aacattgggt acctttttat   300
ccctattact attagtatta ctacaaagag aatcctatcg ataactggat aataacgagt   360
aatacgaaaa agagacaatg gattggtacc cgacaacgaa tattacccat act           413
  
```

<210> 4097  
 <211> 460  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-019-Q1-E1-G6  
  
 <400> 4097

```

ggtcagggtc aggagggtccc ggggtcgacgc acgcgtacgg gaaatgccct tttatgagtt   60
gttctgtttg tttcgtacag acgatgccaa gaaatgagtt atttcaagca gtagagaaaa   120
cagctgaaca gtcatatgga tgcagaaggt gtcatggcga atattgatcc tctagcctct   180
acagaactgg cctatgacat catccgaaag ggagttcggg atgagtcggc acactttatc   240
caataccgag tttttgcacc tgcaaatagc atttacgatt tggttttaaa attaaagtat   300
gaccctcca tcttgagggt caagtttctg agacggcgac tggaggacgc tgttgatcat   360
tctaatectt ttgaaagaat tcttcacgt cgaagcttgc caagaacaga tcctgccttt   420
agtttggatc ggttcgtaca tgatctocat gaaaaggaac                       460
  
```

<210> 4098  
 <211> 75  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-G7

<400> 4098

cagaggatca aagcatatgt acgcgtgtat gcgaagtcac agctcttcta cagatgtcgc 60  
ctaaattcaa atgaa 75

<210> 4099

<211> 329

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-G8

<400> 4099

ggtcaggaat acgcgggtccc aggcacacgt acgcgtacgc gtcagggcgg atcatgggtct 60  
catcaatctg taggtggcaa attattgagt tcatcagggtg ctgcattact taacctcgag 120  
tcgacctcaa gtgtgggtcat ggtctatgac actagtcgaa ggatgatgac aaaagtgttg 180  
taacaaatca agtagccact ataacaagac aggggtttttg ggaacattgt gataagacag 240  
atggatgtgt tactatgtcg aaggctctct cattcaaatt ataagcatag attagcggtt 300  
tatcgcaatt acaacatact ataaataca 329

<210> 4100

<211> 352

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-019-Q1-E1-H5

<400> 4100

cccacgcgtc cgcccacgcg tccgggaaaa gaaggcaagt agagggcggc ccgagaaaagg 60  
agagggcgta agacgtgata cagagtagga agaaaagaga agagagctag aaaggaggta 120  
aaagaagagt aaaaggacta gaagaggtag ggaattcacg aggaaggagc gtgaaggaag 180  
gaggaatccc aagtaatcga ggaagaaaaa gcttcgggtga aagcgtgaac ggattttgta 240  
cacactgccc gtcaagttct ggaagtgtgc taggaataag caggagaagt agaagagagt 300  
aggaaaagaa gaaaggaagt gaagacgtaa gacgtgaaaa aaaaaanaaa aa 352

<210> 4101  
<211> 462  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-H6

<400> 4101

taacggtcag gaattcccg gccgaccac gcgtcagaca gatattgagc ttttgaaga 60  
taacacaatg aggagtttgg ttcagcaata tgccaatgac caacagcaat tctttaatga 120  
cttttctgag gtgtttggaa aatatatttc tagaattcat tgcaatcaaa cttccacagg 180  
acctgtccg ttggatgaca tcggtgtacc cacgtctgct gctccatcac cgcagtcggc 240  
tgttccttca ttttcggaac ctagtttcgg gcctccttct ggacctagtt ttccaacttt 300  
tgatggtgag ccttcagctc catcatcatt ttctcccttc ggaagcagca gtggacctga 360  
atttttcccg atttaaatag tacagaacca agtttagggg agtgtacaac tccaaagggg 420  
gttggttagt aaagcccaca aaaaggtttc caagctttcg ag 462

<210> 4102  
<211> 151  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-019-Q1-E1-H7

<400> 4102

cggacgcgtg ggaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaagggagg aagaacaaaa agataaaaag cttaaataag catgaatgaa aaggtgaaga 120  
ggctttcgaa aatgtcacct atgggtcagt t 151

<210> 4103  
<211> 403  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-A3

<400> 4103

tattcattat atgatgagct ttgaacaaaa ttggaatcct attcgatgcg tatttcgatt 60

ggctattttca tggagcagac ttcaatataa ttgctggaaa caggtttcta aaggtctcaa 120  
 ctcatgtcta atgacagtgc aacctattct tgatcggtgt tgcccttcat cggattccag 180  
 taatacccaa cgattattgg aaactttggt acaggatttc atcgtggaaa ccaaaaatat 240  
 ggatgagttt gctacaagct gggttggtatt gacagaaaag gaaaacttag attgtattca 300  
 attcgatact ttcaaaggac ctttaggatt ttcaacgagt gaatttccta atgacccctt 360  
 tgaagacact ttattgtcga tacgtaagac tttattggag ttg 403

<210> 4104  
 <211> 193  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B12

<400> 4104  
 aatgatcgag ctttgaacaa cagagtgatt attactgctg gttacagtgg agagattcga 60  
 atatatgaag atgtggtgca actataatct acatacatga cagaatgcgt ttcaatggca 120  
 tataccgaag atacggaagt ttcaagctga ctttgttcac aataatcatt caatcaatat 180  
 ttgatgcaaa agc 193

<210> 4105  
 <211> 355  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-020-Q1-E1-B5

<400> 4105  
 cgactgttta gcaaaaacac agcactctgc agaaaagaga aaatgtaaag tatagagtgt 60  
 gcggcccgag aaaggagagg gcgtaagacg tgatacagag taggaagaaa agagaagaga 120  
 gctagaaagg aggtaaaaga agagtaaaag gactagaaga ggtacggaat tcacgaggaa 180  
 ggagcgtgaa ggaaggagga atcccaagta atcgaggaag aaaaagcttc ggtgaaagcg 240  
 tgaacggatt ttgtacacac tgcccgtaa gttctggaag tgtgctagga ataagcagga 300  
 gaagtagaag agagtaggaa aagaagaaag gaagtgaaga cgtaagacgt gaaaa 355

<210> 4106

<211> 234  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-C3  
 <400> 4106  
 tgatttacga agtgcacagt gcctactatc aaaccttttt gactgtttct ggaaagtcag 60  
 ctaatcggtc ttccgggttg gataagaaaa cgtgggatgc catacgtagt gaagtagaga 120  
 tgcaagttgg ttagtctgtt gtagatgtgt ttttctgtgt gcaagtaaag gtttttttgt 180  
 ttgcgtgtcg aaaaaaaaaa caaaaaaaaaa aaaaaaaaaa gaaaaaaaaa taaa 234

<210> 4107  
 <211> 392  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-D6  
 <400> 4107  
 cccacgcgtc cgtacaagag taatggataa gtattcacat tttcatccat ggtcttatcg 60  
 aagagacaag agtcgtttct ctttgttttt tggtygcaat ggtcggtaaa aactttagg 120  
 tggttgtggt tgttgttgcg tattatcttg gtatttcttg ttggaacctt ccaccaacta 180  
 gtataagcat tgttttcata tacaacaaca acatcaacgg taggataaaa cttacctctg 240  
 taatatccga caatggagtt cgcctaggaa gcgttgctt gtccttttta gaacttgtcc 300  
 ttggtttatc tgttgggttg caatgggtcta cattttcctt ttccaattgc caccattcaa 360  
 gtgattgaga agcgtgttac attgctttcc tt 392

<210> 4108  
 <211> 340  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-020-Q1-E1-D8  
 <400> 4108  
 cccacgcgtc cgtccacgcg tccgaagcca tatctatctt tagtattgtg ggatttgtct 60  
 ggtaggagc catctgcatg gcgattatcg gagcgtgggc ctaagaataa aatttgtttg 120

agacgtcgtg gtgcagatga ctgcgatggt ttgtagttgg ttcaagtttg acaagagaaa 180  
acatttgttg ctacttctta caaataaaaa aagttcaagg acaaattgta gataaatggt 240  
gaactgtcaa agaaacattt gtaatacagt aatggggaga gtcacaggca gtgagcggag 300  
atagtctcat gttagcagat ggtggggcgc aagctgtcaa 340

<210> 4109  
<211> 434  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-020-Q1-E1-F10  
<400> 4109

tacaatggac caagtgttgt atggctccta cttatacggg tttaagaaaa gtaagacagt 60  
tggctaaaat acaaaaaata agagagcaag tatggaaaga tagacaagga atagtagaga 120  
aagatcctta tgcggtttct actctattag aacgacatcc tgagttgacg ttggaagaaa 180  
aacaacaatt gcaatccatt gaacaaggaa tagcacctgc tactggacag tcttatgatt 240  
atctttttgc cgatatattt ggtagagcgt tggaacctcc tccacctgga gtacgttctc 300  
ttcgaaagcc tttaaggaag aaaccaagg aacctcattt tgaacatcac ttacaacctc 360  
gtatatggga taatccattt agtgaatttc gagagtcgga agcacaagaa cgttggaaag 420  
caaagttgac aaga 434

<210> 4110  
<211> 210  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-020-Q1-E1-G1  
<400> 4110

cggacgcgtg ggcggacgcg tgggttccac caggggagta aaggcgcaag aaagaaaccc 60  
aaagcaattg acgggaatcg gaaaaagggg tggatcacgt aaattaatcc gataaaccca 120  
gaaccttacc tctccaagaa ggtgttcac ggctgtcgaa agaacgtgct gtgaagtgag 180  
agaacgtacg agaaagccaa gtgaggaaaa 210

<210> 4111



<211> 286  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-G6  
  
 <400> 4111  
 cccacgcgtc cggtacattc aacatcatca aatgccaaag ggaggaaaga aagattcttc 60  
 aaagaaagaa gccacaagta aacctgcagc agcagatgct acaaagacga cagaaaagtc 120  
 tgggccggaa gccaaagttga agggaaactgg tgcaaagaaa caataaaaag ttgactatgc 180  
 atgtgcagtc ctgttatggt ttgtgagttc tgtttgatag tttccagcta ttcttttggt 240  
 agtgaataaa gagaaaattt tttatatatta aaagaganat agaaga 286

<210> 4112  
 <211> 330  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-020-Q1-E1-G8  
  
 <400> 4112  
 gtgggaagta aaggcattcc tgcattggcac aaacaacatc gcaaaaagttc cctattaacc 60  
 cgaaaccgtt cctccacgac ctgattggaa agccacttat tgtaaaaactt aaatggggtc 120  
 tagaatatag aggtttatta gtgtccctag attcttatat gaacttgcaa cttacacagg 180  
 cagaagagtg gataaatgga aaaatggctg gaaagctagg ggatgttctt ataaggtgca 240  
 acaacgtttt gtatgttaga ggaggcgaag gtgaagccaa cggagtacaa aagtgcacaa 300  
 aataaacttc agcacgttcc taggtaaaaa 330

<210> 4113  
 <211> 405  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-020-Q1-E1-H12  
  
 <400> 4113  
 aaaccggagc tattgacaac tccaacaact tcattgagag cgcgtatgga tggcttatta 60

tttatgcgaa atcaaaagcc gacagttggt ttgcaagaga caagactcaa tatcgtanga 120  
 gcagtgtata ttcattccctc ggcaaaagtt gaaagcaatg ccaagattgg accaaatggt 180  
 accattgctg caggtgtaga gatagctgct ggtgcaagat tgaaggattg tattatttta 240  
 gaggatgtga acatcataga acatgccttt attagtcata gtattattgg ttgggggtcc 300  
 attgtggatg cttggactcg agtacaagga acagcggaga atccaacat atttggagca 360  
 agagtagtta cagaagcaga gattgttggt cgcaattgta cagta 405

<210> 4114  
 <211> 468  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-A11  
 <400> 4114

gggacgaccc acgcgtccac ataaaatgcc caatattggt gagtcaaaat ccttctcctc 60  
 ctcccttggga aaatttgaaa agttcggggg gaaaatggct ggattgttca attcaggatt 120  
 ttgaaatgta agatataatt ggtttatatt tacgaatgga aacgatggaa accgcctacg 180  
 gctcgttttt tgattggcga tgaagtaaca caagtctatg ctgtcggagc tattcatcac 240  
 gttccagaaa tgaagtcttt tggagatgta gacacgagtg ttgtattggt acacttccga 300  
 aatggagtaa ttggcactat tgacaattct cgcaaggcag tttatggcta tgaccaacga 360  
 tgtgaagtat ttggttctca aggctctgtg cacatcaaca acaattatcc caattccgca 420  
 gttattttcca ctagtcaaag tattatgcgt gatttaactc ttcacttt 468

<210> 4115  
 <211> 427  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-A4  
 <400> 4115

ccgggtcaac ccacccttcg gccacgctt ccgcgaccc ttgggggttg tgtcaaagg 60  
 cccgtcgttt tccttgggta ttataacgac gaccaagcaa caaagaacat ttgatgaaca 120  
 tgggtatttc tgtactggag atgtctgcgc atgggactat gacggcacac tttccatcat 180

agaccgaata caagaattta ttcaagttag ctcaaggaga atatatttca ccgggataacc 240  
 tgcaacaaca gtaagcctcc tgtaagtttg ttgaacagat gtggatttat ggcaatagcg 300  
 aggaaagcga acttgctgct gtactgcac cgaatcaaca ccaagcacac gaatgggcat 360  
 aagagaatca gaaggaacga catttgaaag ctctatgcaa ggacagagac ttcaagaaag 420  
 ctgtttt 427

<210> 4116  
 <211> 220  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-021-Q1-E1-B3  
 <400> 4116

attccccgggc cgacnctcgg aggaaattat tgggaaaatt ggcattcagg ggaattaagg 60  
 gccccacaaa cccattttta agcgggggtcc caagcgcacg cgcagttaat ttcacaccat 120  
 ttttataacc ccacgctgaa catgatgaaa gggcgggtccc aatccttttg acctgcagta 180  
 aaaatttggc aaaaagagtt tccaagttac ttgtgcaaaa 220

<210> 4117  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-C10  
 <400> 4117

cgaccagggc gtccgaaacg aataatgttt tgggacatta aattttcgct cgtgaattga 60  
 cgactggcga tgaaaacgac ttggagaccg acatgggcac ttatccatcg actttatgta 120  
 aaaaccacaa gtagaattgt tcatcaacca aaactgggtt ttcaaacaag cccttttcaa 180  
 acgtcccttt ttgtcctttc gtctgctgaa caagaacaag gcgggtcctc gaaaagtcgc 240  
 cagtctcatg cttttgcctc ctttgctacc gtagcagcca ctgtatttgg taccatttat 300  
 atgacgtgtc ccattttgaa agcagacgat gagactctag agcctccaaa atacccttgg 360  
 aaccattctg gtcctttgtc ttccttcgat gccgctgcc a ttcg 404

<210> 4118  
 <211> 414  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-C9  
  
 <400> 4118

```

tcgacccagt cctccgaaa caactattct taccattgaa ataccgcatt aggttcgttt 60
tggcagatta cacaggtttt cggtaaagaa agatgaagct ttgcccgaca gtggttctta 120
cttaccacgc gcggtttgca ccagactcac cttatgactt gacgacatgg agatacgaat 180
accttttagaa gtggatacac acaccacatc ttgcaataga cgtattttatt gcaaactgtg 240
tccaataaac taagtgttga agctctagga atcggttttc gtgcgctttt gatatcgact 300
gcatgtactg gaacccttgg ttgtgccata tttctttatt tacctccaga atatagatca 360
ctgaaccttc gttagcgtac gcagcacttt tctgaagatt taaggaactg gtta 414
  
```

<210> 4119  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-021-Q1-E1-D11  
  
 <400> 4119

```

gtcgaccag gcttcggcag cgcgttggtc tccttggaa cttcaaactg ttcatttgcc 60
agatgatgtt ccattttgtt ctccattgtc gtgtcctacc tccaatggta ttcgttttcg 120
tggtaaacta ggaaaagggtg gacgcattat ttttgataaa gttgtggata gcagtcattg 180
aattgggaca cctgtcgacg agggaaagga aagatggctc ttatcttcgt ctaattctaa 240
tttattgcca gatgattcag tggctgttcc ttgtgaaaag tcaaggcctt ccatctcgac 300
gccacaatcg aattctgtgg aaagcatgtc attgaagtgg cttcaaaga agaattggca 360
atgttttagag aacggtagac attcctgtga agaaagagag tggagtggat attttatcgt 420
tgcttcggaa tctggggaga aagactggaa aa 452
  
```

<210> 4120  
 <211> 466  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-D9

<400> 4120

tcgacccagg cgtccgggtg gataaatgat gtaaggaata taagcatggt agtatgctgg 60  
atatggttgg aagtaatagg aggagtaaag aaggagtaca gaggaataat aagcagtata 120  
ggaataataa atataccgat aataaagtac tcagtagagt ggtggaatac cttgcatcag 180  
ccagtgagta taagctcatg gggaggaagt ataggaagag aagaagtaga agaaatagtg 240  
aaggtaataa taataggagt aatggtgagt atagagaaga acatgaggaa gaaagaggca 300  
aatacgggaa agcagtaaaa gaagaagag aaaggaaaaa actgagtatc aggaagaaaa 360  
gagggagtag atgaggaaaag aaagatcaag gaagtaagag taagagaagg agtaatgtga 420  
atgaaagcac gaaagtattt gaagaagaga gtgtaaagcg cgtaac 466

<210> 4121

<211> 198

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-E10

<400> 4121

gtcgaccagg cgtccgcca cgcgtagcc cagcggtccg ggaaaaaatg gaacaagcac 60  
tgcaagcggt gagaaaagaa ctcgagactc gagaagcttt agatgctccg aacaagact 120  
gacaacacag agtgaaaagt atttgcaaatt ttggaacaaa ataaatatct tcttgtttcc 180  
accagaaaaa aaaaacaa 198

<210> 4122

<211> 440

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-F1

<400> 4122

aggtaccggt ctagaattcc cgggtcaacc aagccttcgg cggacccttg ggaaggatgt 60  
cgtcttcctc gcaaaaccag cacaacaaaa agaacaaccc accaacagaa ataaacaaag 120  
gtttaagaaa aagaccgca catacggaag aaactcgcaa cacagacaat gactcttcgg 180

tagaaaagcg aaccaatgct tccctatttg aatgtcatat ttgtttcgac tctcccaatg 240  
 accctgtagt gacaccttgt ggacacttgt attgttggtc ttgtatttac aagtggatgg 300  
 ttgtcatcc tgaatgtcct tcctgtcctt tatgcaagtc aagtattgag aaagacaaga 360  
 taattcctat ttatggtaga aatgaggagg aaaaagtgga cccaagaaca aagcctgttt 420  
 tggataacaa tattcctgcg 440

<210> 4123  
 <211> 241  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-021-Q1-E1-F11

<400> 4123  
 tcgaccacgc gtccgaaaaa aggcagtgtc agtcttccgc tgattattca gttccatttg 60  
 tcanaatcgg tataagggtca aagtctcgat aagaccgtgt cagattgtct ctcgtcattt 120  
 tcattcttga tgaggttatg aaaatttgtc gtgtcagtat attgtcattc aattctgaaa 180  
 cgcgtacctt ttgcataatg tcccaggag tgcgctctga aggatccaga cttacgtaga 240  
 c 241

<210> 4124  
 <211> 448  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-021-Q1-E1-G12

<400> 4124  
 tgggaacgaa ggaggtgtat gtaccgctaa aatgttaccg accggaggta caaaacggga 60  
 aggcacttgt taatttattt caaacaataa ccaaccgaga gctttttcgt ttggtaaatt 120  
 ttcgttccaa cataataata ttttacttta tcacagccac tttagaacta ggaaaccaca 180  
 gattggacct tccgaggtgt gccttcacgc gcaactcttt gtgaagcgaa agtcagcaaa 240  
 ttgtcatatt tgtgtactga gggcaaaaat aagtacaagt aaaagtataa aatgccccaa 300  
 cagtaatgaa aaggaaagt tggcgagttt ggaggaagct tttgaaaacg ctcttcgagt 360

ggtatgggat aggaaaccaa aaggctattg gtccagtatt gaaaatctca ctaacgaact 420  
 cgggagattg atcgaaaagt atgattcc 448

<210> 4125  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-G3  
 <400> 4125

cccgggccga ccacgcgtc ggcccacgcg tccgcccacg cttccggcaa gaaagaaacc 60  
 caaagcaatt gacgggaatc ggaaaaaggg gtggatcacg taaattaatc cgatataaac 120  
 cgagaacctt acctctcaa gaaggtgttg cacggctgtc gaaagaacgt gctgtgaagt 180  
 gagagaacgt acgagaaagc caagtgagga aaagaaggca agtagagggc ggcccagaaa 240  
 aggagagggc gtaagacgtg atacagagta ggaagaaaag agaagagagc tagaaaggag 300  
 gtaaaagaag agtaaaagga ctagaagagg tacggaattc acgaggaagg agcgtgaagg 360  
 aaggaggaat cccaagtaat cgaggaagaa aaagcttcgg tgaaagcgtg aacggatttt 420  
 gtacacactg cc 432

<210> 4126  
 <211> 143  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-G8  
 <400> 4126

gttgtttcac aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagggcggaa 60  
 caacaataag ataaaaagca atacataaac gtgaatgcaa aaatactatc acatcaagac 120  
 tgtcacttca aattcaattc acg 143

<210> 4127  
 <211> 312  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-H1

<400> 4127

```

cccacgcgtc cgaagacagt gaaaaggatg ccaaaacttc ctacttggaa aattatttgg 60
aacgacgcac gaagaccaga gtctactcca ttctatcttg gttacttgat cgttttgacc 120
ttttcgtggt ttgcgtttta accgaccgat gaaaactata aaaactctcc caatccgagg 180
tttgggaagaa atgctgtgaa ggagtcccac gattccaaac actagaaata ctttggttgt 240
tgataaagt gttatttttg ttgtaaaaaa aaaaaaaaaa ataaaaaata aaaaaaaaaac 300
caaaaaaaaaac aa 312

```

<210> 4128  
 <211> 444  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-021-Q1-E1-H3

<400> 4128

```

cgggtccagga attcccgggc cgaccacgc gtcggccac gcgtccgcac gaaaatttgc 60
aaaattctgg cgcagaatcg ataattacgg cctcattgcc gaattgtcga tacatcggat 120
acaacttggt cccccgtttt gtgacaagat gtcacgttgg tgaaccaaca gacaactctg 180
cttgctactg agttttcttg tcggtttgaa ccacgtttct tgttcagaag aattgaatca 240
gtatgtgtta tgtcacaacg ctcaaagaga aaacaaagcg aatctaggag tactgactcg 300
tctgaggaac aagaggctag tattgaagaa tcttttacac cacaattacc ttctcttaga 360
acactattac aaggtacgac agatattcca agaaacaaac aaagcctctc aaagagtga 420
agtgaaaaaa aatcgagtgt ttaa 444

```

<210> 4129  
 <211> 424  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-022-Q1-E1-A11

<400> 4129

```

gtaacagtga catggagtca tgagagtatg aggagtggag agaaggagga gatggagaag 60
ggtttgatga taacgataat gttggggata atatttttga tgatacaagg atatgaatat 120

```



tatgaatcag agtttaggat aacggatgga gtatatggga gtagttttta tatgggaacg 180  
ggatttcacg ggatgcacgt gtagtgga gtaataatgt tatcgatggg attgataagg 240  
agtataagag gagagttaac ggcagagcac catgtaggat tggaagcagg gatatggtat 300  
tggcactttg tggatgtggt atggttattc ttgtttgtga gtatatactg gtggggaggt 360  
gtataggaag tataggaat ggaaggagga agggataaga aggatgaagg agatagggag 420  
ggca 424

<210> 4130  
<211> 372  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-022-Q1-E1-A7

<400> 4130  
tcttcaaag agtctatcga gacgttattg ctaaagacgt ttcttaaaga aatccctact 60  
tcgtattgtc tcgtgtatgc acttttggct attccagtac tcgcgctcga cgtgtattta 120  
tatcttgccg tactccactt gaactttatt gcttcaagcg ttctgttgat catcggtact 180  
acagtcggct tgggtgcttct agttacgtcg tatcataaaa ctgcatatgc caagtgggtct 240  
aagctcgatc gcacaacaga gcaaccaacc aagagctctt tcaagggtaa tttgtcggca 300  
tnacgaagtg gagttgagag tcacctatgg ctcttggaag gatcctcggc cagttacagt 360  
gtantgataa ac 372

<210> 4131  
<211> 430  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-B10

<400> 4131  
gaatggcggc cctaacgga aggatccaaa ggtagcgaag taaatagacg tttgaaaggc 60  
gtccagtatg aaaggagaaa cgagtgtatc actgtctagt cgtccaactc agcgaaacag 120  
caataactgt gaaaatgcag taaactagca gtaggacgga aagaccccat aattcttgac 180  
tagatagggt tagggaggag agagaatcat gaagtagagg aggtggggta agagatgaaa 240

gaccactgca tgaggataag gaatctaact gagtaaggaa aataagctta agctagtttg 300  
gctggggaag taaagcctaa gaaagagtaa attaggcaag caaaggcatg agagaagtat 360  
aatagcagaa gcatgcttga agaaaaagaa agagatttca gaaagggaag aaaagtcagc 420  
tatagagaac 430

<210> 4132  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-B12  
<400> 4132

cccacgcgtc cggttttcga tgagcttaga ggaagtattc aacaaggcag cggaagaagt 60  
aaaaaaactg tcttcggcat ccaacgaaga caaactggag ctatatgggt actttaaaca 120  
agccaaggag ggtgattgct ccaccgagaa accaaaagggt ctttttaatc aaaaagaaaa 180  
agcaaagtgg gacgcctgga attccaaaaa aggtatttcc aaagaagaag cacagaaaaa 240  
gtatatcgaa aaggctgata aactatgcgg cacgcagttt cttcaaagcg tttcctagtc 300  
accttaggtc cttgctcttt ttttggtttg tcggtcctaa ttcccaaaaa atatgagtaa 360  
agtaccgttt ttttcggcc 379

<210> 4133  
<211> 235  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-022-Q1-E1-B5  
<400> 4133

ctcacgcgtc agcccaggcg tctgcccacg cgtccgcgga cacctggggc aaaacatcca 60  
agctacgaca ggattcggcg gtggattcag gttttccgat acaccttcct ccaccaatca 120  
aggtaacact ggtgacgagg atctctattc gtacgacaac ggttcacgaa tctgtgcagt 180  
ttattgatgt gtggcgtttt gttgaaataa acatttgttt agtttacaaa attgg 235

<210> 4134  
<211> 368

<212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-C8

<400> 4134

atgttattag gaagagaaag gagtaaggaa gtaaaggaga tgataaatgt gagtgttaagt 60  
 gagagtggag tatggagtgg agagaagagg aagaggagtg taatgaagga ggagataaag 120  
 ggagagaagg agataaggga gtggagtggg ataaggatgg aggaggagat ggtaatgata 180  
 atagcatgta tggtagtcca ttggagcaat ttgaagtggg atcgctgtat aagatggaga 240  
 tagaaggaag ggaaataggg ataagtaaca taggagtgtg tataataatg ataagtgtaa 300  
 aagggaaagg aaaggagaga aagaggaaag ggatgaaatg cagagatctc tagagaaagg 360  
 caaaacac 368

<210> 4135  
 <211> 108  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-F6

<400> 4135

attcagatat gatagacggg aaatccgaag tagacgatat ttgggttacc tggaggactt 60  
 aatcaagggt gatctagggg tccacttcca gaccttagag tgctggtt 108

<210> 4136  
 <211> 298  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
 <223> Clone ID: LIB190-022-Q1-E1-G6

<400> 4136

cccacgcgtc cggagagggt aggcttagaa gcagcaaacc agagaggaaa gcgttaaagc 60  
 atgaaagaaa agaaatccga aaaagaagag aaaaaggtaa gaaagaggac cgaatcaggg 120  
 taagaggtag aggagcaaga agagaagaga gaatgctggg tggagtagcg aaacaagaga 180  
 agggaagtaa aaggtaagaa agaggaaagg tttacgagag aaggaagtag aaagaagaga 240

gtgtaaggcg gcgtcataat agaaatccga aaggagtaga agaaaagaga gagaaatn 298

<210> 4137  
<211> 282  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-022-Q1-E1-H1  
  
<400> 4137

attccgaggt cgacccaggc gtccgaccac gcgtacgaac agagtggcta cagagtaagg 60  
aacagatagg gaatgtaatg gtaataagta aggtaatgta tggagaaaag atgatacgaa 120  
taatggaatg tggaatgatg ttaatgttac caatgatagc agtaataatg atggtggaag 180  
gacaagagag aaagaacgag gatgtaaggg agcaggagtt aagaagatgg gaggaagtga 240  
taagaagaaa ggaatgagga ttcacgtaca gcacgacaac ca 282

<210> 4138  
<211> 429  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-022-Q1-E1-H11  
  
<400> 4138

ccgacgcgtc cgaggacgca tgggcgagc cgtgggcaag aggagaggac attgaattgt 60  
tcaggtcata acaaaggaaa tggatgatgga ataacttctg tttcatttag tcctcgttct 120  
ccttagcgta ttgcaactgg ttcgttgga aagacagtga gagtattcga tgtagagacc 180  
ggtgaacttt tgcacaattt tcgtcaacat gcagattctg tatattctgt tgccttttcg 240  
agcgatggaa gatattctgt atcagggttca cttgataaga atgttatatt atgggatctt 300  
gcagctcctt ctccaaatga ctagtcaatt ttcaaaggcc atactgactt tgttttgtct 360  
gtcgcattta gcttaaacyg tcgtcttccc ttgagtggca ccaaagaccg ttacggtaac 420  
tttctggga 429

<210> 4139  
<211> 284  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-022-Q1-E1-H6

<400> 4139

acggtcaaga attcccggt cgacaaacgc gtccaagcaa agcgaggtgc aaattttacat 60  
tcatcaccgc atacatcagt aaacgataga agcatttcat cacaatcgga tgcattgttac 120  
tgactgaata cagatgttct cgtaagaatc gtggaatcat tcaaagagac tcgaaacgaa 180  
atcaagggca tttcagagta tacgaaccag cggaatataga aaaaattaag gatctagaat 240  
gtattaggaa atgctatcga ctaaattgcgt ggcaagtgcac atgg 284

<210> 4140

<211> 202

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-A1

<400> 4140

aattcaaaaa gctgtgtttt gcgcttttaa tggaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
agaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagaaaa 120  
aaaaaaaaaa aaaaaaagg ggaagcgctc aaaaaagag aagtgaggaa tgaggaaaag 180  
taagggaag ggagccaaaa ag 202

<210> 4141

<211> 327

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-A12

<400> 4141

gtccagaatt cacgggtcga cgcacgcgctc cgcgagcgcg tgggtatgga ttgtatttgt 60  
tctctcaaga cgctcgagatg tatcggtggc atttctgcaa tgcaaggcat ttctagtatt 120  
tgaacttgtg gagatgtttc gaatggtgaa tgagagtcaa atgttagtgt ccaaccccat 180  
tgacgcaata tttccttgta tcggttttca tattgtactc gtcattcagc tgcattgtga 240  
tccatagcat atagcgtttt atctgccccaa aacagtaaaa aacttctgtt ccagactcct 300  
ttccattgca ttttgtcgaa aatatct 327

<210> 4142  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-A2

<400> 4142

```
tacctctcca acaaggtggt gcacggctgt cgaaagaacg tgctgtgaag tgagagaacg 60
tacgagaaag ccaagtgagg aaaagaaggc aagtagaggg cgcccgaga aaggagaggg 120
cgtaagacgt gatacagagt aggaagaaaa gagaagagag ctagaaagga ggtaaaagaa 180
gagtaattgg aactgagaaa aggtccaaac aagagaaatc agcagtgggg aaaattgggc 240
aatgtacagg gaagtatgac ccagtaatga ggagtggagt aaacagaaaa ggaagtaaaa 300
ggagggaatg aaggggaagtt atggcaaaaa cacgtgccag cagcagcggg aaaacgtgtg 360
taacaagcgt agagcagaag aactgggtgt 390
```

<210> 4143  
 <211> 362  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-A5

<400> 4143

```
gaaataaagc acgaaacagg ttttatttcg tcgcactgaa gaactcacia actcagtgtg 60
gagaatccaa tttgtttcca tcacacgaaa atttcagact ctccaaactc tgcattggga 120
tcgaagccac caaaggcagg ctgctcatta aaagaaggcc atgatggata ggatggatat 180
tgaggaaatt ccacatagga tgtgtaagaa ggagcgtaaa aatagctagg cgaaggatat 240
ccctttgagt aatctgcaaa gtctacttga gctgcttttc cattgtcctt tgatgaggca 300
ctactagtta cttctaactt ggggatcttg gttgtacctg gaataacaga ggcgttgcc 360
ga 362
```

<210> 4144  
 <211> 419  
 <212> DNA  
 <213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-023-Q1-E1-B12

<400> 4144

gaccacgcgt cgcaccaccc ttcggccaac cgcgccgat taattccaaa ttaattttaac 60  
aaaggaaaca acaaggtcaa aagccaaaac ttgccaat ttccaaaca acttataccc 120  
aacctcaatc ttaaatccaa cccccaacct agggcaaagc tccttcctac aatcaatatt 180  
cttcttcgta cggttcctct agctatcgtc tcttaactgc agacgaaaac caacttgtga 240  
gcagaggagg ttatgcacca acaagccaat gtattctagt tcctatccaa tgctgcactg 300  
attgcaaaca atgctatgcc gcatggagtt cctaaatact gatacagtgc tcggctagaa 360  
agaaacagat atcaacggat gtttttttcc ttacgtgaa taanacttgt gttcataac 419

<210> 4145  
<211> 440  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-B6

<400> 4145

gcaacaccga ctgttttagca aaaacacagc actctgcaga aaagagaaaa tgtaaagtat 60  
agagtgtgcg gcctgccaaa tagtagagaa gaaatcgatg aaagtgaaag cgagtataag 120  
atgaggtata gagaatggcg gtcctaactg taaggatcca aaggtagcga agtaaataga 180  
cgtttgaaag gcgtccagta tgaaaggaga aacgagtgtg gcactgtcta gtcgtcgaac 240  
tcagcgaaac agcaataact gtgaaaatgc agtaaactag cagtaggacg gaaagacccc 300  
ataattcttg actagatacg tttagggagg agagagaatc atgaagtaga ggacgtgggg 360  
taagagatga aagaccactg catgaggata aggaatctaa ctgagtaagg aaaataagct 420  
taagctagtt tggctgggga 440

<210> 4146  
<211> 396  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-C10

<400> 4146

gtccagaatc acgggtcgac gcacgcgtcc gcccacgcgt ccgcccacgc gtccgcccac 60  
gcgtccgccc acgcgtccgg aaaaggagtt gtctagtgc aaggaagaag gtttgagtac 120  
cgacataaag aaagttgggtc aaaagtgggg acgaaatgca aaaggtgaac gttggtatga 180  
aacttggaag gtaaagaata atggaaaggt tgaaactacg tatcgtttag aaagagccaa 240  
ttctggcagt tggtgaacat aggaacttgg cagctgtggt gtagtaattt tgaaaatagc 300  
tatttctggt tggtgtagaa tttcaaata atgaataaac gcaaataact accttttcaa 360  
atacaaaaaa catccaaatc ccggcaccaa ccctac 396

<210> 4147  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-023-Q1-E1-C3  
<400> 4147

cttggtgcat tgagggaatt ggagaatgta gtcattcaaa ttccacttgc taagagtgc 60  
ggtactccaa agttacgagg tgctgatgga gagttttctt ttcgttcagg aatgggtggaa 120  
tggaataatag ctcttggtga taaggataat cctcaagggt ccttggagtt tgtaacagaa 180  
cctactcctg ctactagttt cttccctgta caagtgtcct ttacgagtag tgaaatatat 240  
ggaaagattg gaatagaatc cgtgaaagat tcgtccgacg aatctcctca caagttttct 300  
ttggagaaat gtttgactac cgaacgatat tccattgtac atgactgaca gtacagtaaa 360  
aagttgatat gatgtataac aagcgtaaaa cag 393

<210> 4148  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-023-Q1-E1-C4  
<400> 4148

atacccggt caaccaacgc gtccgtgacg ttcccatcgg tttgcttata caggatgatc 60  
cttcttacag atataatgct ctcatattcg tcaatggttg gatgctgggg cactacatca 120  
attacttagg accacaacat gactttgtac ttcataatgg aattctgaat cccaatggaa 180



agaatgatat agccatagca gtttggggac aagacattgc tggaggaaga cttggaaacg 240  
 tgtccctgca tgcgtatcaa gttttaagga cggaaccag aataactgaa attaattgaca 300  
 gtccaaacta ctggcaaatt cttcctcgtc tagaggagct atgttgagtg tttcccgtat 360  
 cgatgtttga tggtgatttg ttcgttcata taa 393

<210> 4149  
 <211> 445  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-D10  
 <400> 4149

ccggtctaga attaccgggt cgacgcacgc gtccgtactg atatacttta gacatgtaaa 60  
 tactatcgggt cctcttaaga cttggctact ctttggagac gcaagtattc atatccaaaa 120  
 cctggagggt catttcgtac tctttcatgt cctgtcgttg tagttgttac tggcaaccga 180  
 tcttcaagat gcgaactttc cagagactct tgtgagctgt ggacggaaga acgaaacgtg 240  
 cgttttggta atatcgttgg gtccctttcc acacggctctg tgggtttctt ggatgactct 300  
 acaatacttt tcgatgttct gctattagag tgatgatcca cgctgggtggg ttgtggatgt 360  
 cgacgatcca ttggctcagg aaaacttttt cgcactctct ttgataggat cttcgtacgc 420  
 attctctcgt gggtgtttcc caacg 445

<210> 4150  
 <211> 321  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-023-Q1-E1-D9  
 <400> 4150

ggccaaacgt ccggagcgtc cctccgctgg ctggctgcag gcaaatttc gattcaaagt 60  
 atggaagctg gagaaggaga tattactgtt agtcaactag taaaggaact gttgaagcga 120  
 gaatggagca acgagcaata cagacagatg aacaaaagggt ttttgcgcaa tcttggcatt 180  
 tttgcaacag caatttttgt ttttagaaag tatggagaat tatttgctat ttgaaagata 240  
 aatattatcg tgagaaagaa ataaacgctg ctccctaagt cctattggac tgaaaaaaaa 300

caaaaaaaaaa tggaaaaaat a

321

<210> 4151  
<211> 447  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-G10  
  
<400> 4151

tcagaattca cgggtcgacg cacgcgtccg aagaaacctt tatatgtctg tttagcacag 60  
agaaaagaaa ttcgacaagc tcagttggaa gcacaacgta tagctgctgc tgctggaggt 120  
ttaagaattc ctggagcagt tcctggttcc ttgtatcccc aaccaggagc tccaatgttt 180  
tatectcaac caggcgtacc acctcaaag caacttcaat caaatatgat gggaagagga 240  
caagcttcgt ttattaaccc gcaatatttg gcaatgatgg gtcaaggagg aggaggagga 300  
gcagccgcag cagcagcagc agctgctggc cctgccgcta caggaggagc ggcaatgggt 360  
tcgatgaatc aaaactttat aggaagagga actgcagtca tgtccagtcc tggcgggtgg 420  
ggaagaactt cgtatcctgc agcttct 447

<210> 4152  
<211> 424  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-G8  
  
<400> 4152

cgacccacac gtccgcccac gcgtccgccc acgcgtccgc ggacgcgtgg gcggacgcgt 60  
gggcacttgt tgaggtagtt acacagcatg tgggatgggt gtttcaacct gtcttgaacc 120  
cttgacagta aaaagacgaa ttggaagcaa gctataacct ttaccagaca gtggagtcaa 180  
ctcagtgaat gcaagcacia taatatgcga cgattactct gttttacttg ccttgggtcag 240  
tcgacattat ccgacaacta cggttatatt gagcaaggta tgatgcaaag cctcgtggaa 300  
atgtgtttta aatcaaatac cgtgtagaac acaattattt tcaacaagt ccgaccaagt 360  
ggaaggaatt ggtaaaagat gttcatcggt ggtttgttaa tgcttgata cctggaaaga 420  
aacc 424

<210> 4153  
 <211> 404  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H12

<400> 4153

```
tcacgcgctcg aaacactgca ctggcattat tcgactcgct cagcagttac ctgtggttga 60
tgtagaagcg gtcaatttgt tagaagaaaa acagtgtcaa tcttctgccg attattctgt 120
tccagttttc agaagtcggg atcatgtccg agtctcccta agaccgtttc aaattgtctc 180
tcttcaattt cagcttggtt gaagttatca aaatttggtt tttcagtaaa ttgtctttca 240
tttcggaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 300
aaaaaaaaaa taaaaaaaaa aaaagaaaaa aaaaacaaaa agataaaaaac taaaaataaa 360
aaatacaaac aaaaacataa aaaaaaaagg ggggggcccc ccaa 404
```

<210> 4154  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H4

<400> 4154

```
gggtcgacgt acgggattta cgtcggggca tttcaaaagc tcaacctaaa caaccaacat 60
ctgaccaaga caacgcttca aaagccaaaa aagccgaaaa acctgcagga atgattcctt 120
ctgcacaaaa agattccaag gccgttgaat ggagcaatag tgaacaacg tcaaaagagc 180
gtgaaattga aaaaccttta aactgtcctt gtattcacia aattaaagga aggttcctgt 240
ggtgagcagt ttatcgcagc atatcgctgt tttcttgaaa gtgaaacaga gcccaaaagt 300
tccgaatgtg ttgaataatt ttcacgatg caaaagtttt atgtaaaaca ccgggagagt 360
atgacttgga tagtgattcc gatgac 386
```

<210> 4155  
 <211> 134  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H5

<400> 4155

gggaaaaagc ccagaagcca agataaggta tcaaagtaaa gaaagaagga aaaggagaag 60  
aagagagggt aggcttagaa gcagcaaacc agagaggaaa gcgttaaagc atgaaagaaa 120  
agaaatccga aaaa 134

<210> 4156

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H6

<400> 4156

cccgggtcga ccacgacgt ccgggataag aatagttcct atcataaagc tggagaagaa 60  
gaagaagaag aagaaggaag aaagagaacg gaccagcagc aacaatccaa ttcggattgg 120  
gacctcattt acggaattga acaagtggac ttgcgaccac cggcagcaga ctgacaagaa 180  
gtaaaacagc aaccaagtt ggagttttta caaggatgga aaaggacaac gataacagct 240  
ggaacgtcga ggataaagac tcggtggagt tggttcttaga tgcagctcgt tttggtgacc 300  
tttccttagt tggtgatttg tattctcagt attccaataa acgtgtgttg gaaggcaaaa 360  
acaacgatag cccaatcaca acaaattacg caacctgaat ggcaaatggg 410

<210> 4157

<211> 361

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-023-Q1-E1-H8

<400> 4157

acgagtccga tttcttttgg gtgtgaagag ttgcgcaaaa gagagaaaga gagagaaatg 60  
gcaacgacga gtggaagagg aggaggaagt ggcggtggtc ttaccggacc tccaaaacca 120  
ccacctcacg cagcaataca agatggacct cctcctgggtg gttatccacc ggtggatggt 180  
cgtagaaact tgcccaaagt tgggccttcc ggtactactt tggtgatagg catcggactg 240  
atcaccatct atgggttttg gggagcgacc aaatcagctc aacgtagaag aagactgaac 300

caggaaaagt atcaaattcg attggctatt acgccgtatt tacaagccga acaagaccgt 360  
t 361

<210> 4158  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-023-Q1-E1-H9  
  
<400> 4158

gcgtccgttt gtacacgtcg ttgtggcct tctccaagt ggcccttttt ggtgcacaat 60  
ctgttatgca ccaaagaaa ctagagcttt taaaaagag tctagagtac gtaccaagtt 120  
gtggatttac agtggatgcc gtgagaaagg cagtagaaag tcttggttta tcaaaggcag 180  
caactggttt attggaacga ggactcgtgg agttggtga atttcatcat tcggttgcag 240  
ataaagaggc tgcagattat gcacatcaaa tagcggacaa cgacttggaa aggaaagacg 300  
tgatcattgc agcgctacaa agaagatttc agtgtagcga ggattttcag tcccactggt 360  
cgcaagctat ggcgttggaa cacttgccac aaaactggcc ggccgctaca aggcgtttgt 420  
t 421

<210> 4159  
<211> 418  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-024-Q1-E1-A3  
  
<400> 4159

gggtccaggg gtcgagggc gactcacgcg tccgccacg cgtccgcgga cgcgtgggtg 60  
caagttggtt ggtttctgga ctttaaggca tctctgttct cttgttgggtg tgactgttgg 120  
tagatattgt gaaagatggg agtcaaagtt ggtattaatg ggtttgggag aattggaagg 180  
ctagttctta gagctgcttt ggagaaacag tctgtagatg tggtagctat caacgatccc 240  
tttattgatt tggactatat ggtctacatg ttcaaatatg actctgtgca cggcgcttat 300  
ccaggtacag tggtagcaaa gaatggaaaa cttgtcgtgg atggacacga aatggcagtg 360  
tttgcccttc gtgaccctag tgagattcct tggctcctta ctggagcaga atatattg 418

<210> 4160  
 <211> 445  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-A6

<400> 4160

```

ggtcagaatt accgggtcga gccacgcgtc cgcgtaaacc ggacgattgg gatgatgaag 60
aagacggaga gtgggaacct ccaatgatac caaatcccaa gtgtgaagaa gtgggttgtg 120
gagaatggaa accacctatg attcctaacc ctcgttacag agggaagtgg aaggcacctc 180
tcatcgataa tcccaactac aagggtccat ggaagccaag aaagattccc aatccagact 240
actatgaaga tctacaccca tctattcagc caatcgggtc tattgccatt gaaatttggg 300
ctatgaatca aggatttgtc tttgataact ttttggttga ttttgaccca gaaaacgctg 360
ccaagtttgc aaaggaaact ttcgaggtaa aacacaagca tgaagtatct gcagaagaaa 420
aggagtgtgaa gcgactttcc acaaa 445
  
```

<210> 4161  
 <211> 382  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-B2

<400> 4161

```

cacttatgac gatatcaagg caacgatgaa agctgcgtca gaaagcaaag ctttaaaggg 60
aatattggca tataccgaag atatggtagt ttctactgac tttgttcaca atagtcattc 120
ttcgatatatt gatgcgaatg ctggaattat gttgtcggaa acttttgtga agctgattgc 180
ttggtatgat aatgagtggg gctactccaa tcgtgttgta gatttgggtc accatatggc 240
gaaagttgat ggtgtagctt aactctgctt ttcttgttgt tttttcgtgt attgtttggt 300
ttgtgaaaga gatgaaatgt gttgtctttt ccataaaaag ttgtgtgcgc tgtgaaaaaa 360
aattgaaaaa aaaaaaaagg aa 382
  
```

<210> 4162  
 <211> 475

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-B5  
 <400> 4162  
 caggtgccgg tcaggaattc acgggtcgac gcacgcgtcc gccacgcgt cgcgccacgc 60  
 gtccggttac tggaaatctg tttggagata tattatctga tgaagcttct atgttggttg 120  
 gttcttttagg aatgtttacca tctgcttctt taggagaagg caatcgtcca ggagtatttg 180  
 aacctgttca tggttcagct cctgatattg ctggtcagga caaagccaat ccactagctt 240  
 gtatcttata tgcgtccatg atgctgaagt atcagtttca gttggatgaa gcatctcatg 300  
 ctgtggaaca agctgtttac cgagtttttag acgaaggata tcgcactttg gatattatgt 360  
 ctccaggaaa gactttgggtt ggttgtaagc aaatgggaga acacgtattg aaacacttgc 420  
 aaagcgtttc aaacatggcg actagtgtg ctactagtat tcctacaaaa catta 475  
 <210> 4163  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-C5  
 <400> 4163  
 agtaaaaggt aagaaagagg aaaggtttac gagagaagga agtagaaaga agagagtgtg 60  
 aggcggcgctc ataatagaaa tccgaaagga gtagaagaaa agagagagaa gaaagaaaag 120  
 aagagaaaaa gcccagaagc caagataagg tatcaaagta aagaaagaag gaaaaggaga 180  
 agaagagagg gtaggcttag aagcagcaaa ccagagagga aagcgtaaa gcatgaaaga 240  
 aaagaaatcc gaaaa 255  
 <210> 4164  
 <211> 432  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-024-Q1-E1-C8  
 <400> 4164

gggccaaccc acgcgtccgg taccgtacaa gcgttcagaa gaagaaaaat ggagccaagc 60  
 aggtgaaaaa agatggcagt tattcaaaag actggaaaaa gagaatgcta ctgcccgtt 120  
 tttcttacia aacaaagcta tttttccagg tgctagagtt ttggaactgg cttgtgggtc 180  
 cggagaaacc actttgcaag tagctgcgaa agtaagaggc tattctgtac cttcaggaga 240  
 gaccacgggg gaagtgggtg ataaattgtt ggatatatta cgtccatctt atcaccagga 300  
 agggaaactg gatggtgcca gcaatagtgg ttcggtagta ggtgtagata tcgccaagg 360  
 aatgctgaat gtgttcagag gcangttgga aaatactgtt ttgaaagatc acgtgcaact 420  
 tgtanaaagt ga 432

<210> 4165  
 <211> 386  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-C9  
 <400> 4165

gaaaaaaga accaaaaagt tcaaacgttt ccagtcggat aggtttaaaa gagtcaagga 60  
 aagctggagg aaaccaaagg gaatcgactg cagagtgcgt aggcgggttca agggttctac 120  
 tttgatgccc aagatcgggt atgggacaga taagagaacg agacacttgt tgccaaacgg 180  
 tttctacaag tttgtagtaa ataatgtgaa agaattggac gctctactta tgttgaaccg 240  
 caaatatgca gcagaaatag cgcacggagt atccgcaaag aagaggaagg aaattttgga 300  
 acgagcggcg gagttggata tcagagttac caacgcacgt ggaaagttga gagctcagga 360  
 agctgaataa aaatcgtcta tttact 386

<210> 4166  
 <211> 486  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-024-Q1-E1-D5  
 <400> 4166

cgctgcaggt gccggtctag aattcacggg tcgacgcacg cgtccgtgat agcccttttt 60  
 tctcttaatt gttttttctc tagttcagct gtccttgtga agtactttat tgttaccag 120



gttcaatatg cccaaagctg cgagtaagga agagaagccc gcctcaaaac gcgctgtatc 180  
cccctacaac gaatatatga agaagatgct tcccgtcata aagcaacaaa accccaatct 240  
ttcgcacatcag gaagctttta agcgttgtgc tgaaagttgg aaagacgctc cagagaatcc 300  
aaagaaccag gcttcagcct aagttagggg ttttctttga attggtgttt ctcaacacca 360  
ccaggagaag gaactagtct attttataat tccctttgtg tcttcaagca cggaatatga 420  
ggagaggtaa acttttgtct tatttgggtcc gtatgagtag ttgcgtgttt gttacataaa 480  
atcact 486

<210> 4167  
<211> 452  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-D7  
<400> 4167

aggtaccggt ccagaattcc cgggggaaga caaaaatttt atggaaaagt ttcaaaaact 60  
ggagaagatc ggtgaaggca cttatggagt tgtatacaaa gcaaaagaca aatatacagg 120  
agaactcgtt gcactgaaga agataaggct ggaacacgag gaagaaggag taccttctac 180  
agcaattcgc gaaatttcca tattgaagga attgcaacat ccaaacattg tgaggtaagc 240  
atggagtgat gagagttctt tgagtatatt cgttgttcag acttcgagat gtgatccacc 300  
tggactccaa actatatctg gtgttcgagt atctggaaca agatttgaaa cattttatgg 360  
atagtttacc ccttggaag ctagaccctc ttctaataca atcttatttg tatcagcttc 420  
tgaatggttt ggcgtattgt caccgaaacc gt 452

<210> 4168  
<211> 356  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-E11  
<400> 4168

gttcagcact acgtagactc caaagggtgtt tcttattacg ggtttgaagc ctggtggaag 60  
tgggtagctg atggttgtcc acctcgtcct tccaaagagg aagtcgctaa aaggacacgc 120

cagtctgggc agtttggtcg aaaggaccaa ccaagctcac aagacctttc agcttgagg 180  
tctatgggag aaacttatta tcctgagcga aagagtcaag aaacattaga cgctgaagaa 240  
cttcaacaaa ggaagagcat gaataagtcg agttcggaac gaccaaaga aaatgttgca 300  
gctgcatcat agttgagttt gtttctatca taaacttatt attcaacgtg aaaaat 356

<210> 4169  
<211> 421  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-024-Q1-E1-F10  
<400> 4169

accgacacag gtactcgagg agaaaggaga cccaaattaa ggtgagagaa tggacgataa 60  
ggaactaggc aaaaggatat ggtatctgcg gtagaacata tgaaagaagc agcaccgact 120  
gtttagcaaa aacacagcac tctgcagaaa agagaaaatg taaagtatag agtgtgcggc 180  
ctgccaaata gtagagaaga aatcgatgaa agtgaaagcg agtaaaagat gaggtataga 240  
gaatggcggt cctaacggtg aggatccaaa ggtagcgaag taaatagacg tttgaaaggc 300  
gtccagtatg aaaggagaaa cgagtgtagc actgtctagt cgtccaactc agcgaaacag 360  
caataactgt gaaaatgcag taaactagca gtangacgga aagaccccat aattcttgac 420  
t 421

<210> 4170  
<211> 381  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-024-Q1-E1-F12  
<400> 4170

ggtaccgggc cagaattccc gggccgaccc acgcgtcaag gaaaggagag aaagaggaaa 60  
gggatgaaat gcagagatct ctagagaaag gcaagaaaga aaagaaagga agacacagta 120  
aatgaggcga gaaagcatag gaagtgaaac ggattaggaa cccgtgtagt ctatgcagta 180  
aaagaaagaa tgagtaagaa aaaagggagt cattccacca ggggagtaaa ggcgcaagaa 240  
agaaacccaa agcaattgac gggaaatcgga aaaaggggtg gatcacgtaa attaatccga 300

tataaaccga gaaccttacc tctccaagaa ggtgttgac ggctgtcgaa agaacgtgct 360  
gtaaagaatg gaacaagaac g 381

<210> 4171  
<211> 264  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-024-Q1-E1-F2  
  
<400> 4171

cccacaagca actcgagaag acatactaac tcacctacaa ggagcattta agggtaagcg 60  
aaatcgtgga cagttacgga aaaaatatga aagttacgag aaatccggta aattacctgc 120  
aggtgcacct agaacaaaga caaacttgta aaagtgaatt tcgattttac tatgcttctc 180  
ttttggaaat acaacataat tgtgtgaaag taactttagc aataaagaaa tcgagttgtg 240  
tggaaaaaaa aaaaaaaaaa aaca 264

<210> 4172  
<211> 482  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-024-Q1-E1-F6  
  
<400> 4172

aggtaccggt cgagaattcc cgggccgacc aacgcttcgg cttcggctgc aggtggaata 60  
gacttttcct taaaccctcg atggaaacca tgtgctcagg tataaagaat tccttttctt 120  
gataccgatg atgatgttca ttccagtttg gacgacgatg aacgtcaatc acttcgtgcc 180  
aactttttac cccccgcatt cgcacccatc caacttggag cacacgacga taacagtgca 240  
gatgactggc aagtgaaaga attgaccgct tctagtccag tgttgaccaa tcatccccac 300  
ataaagccca gtcatttgtt gggtgcttca gaggaaccc acaaactgcg cagaaagttg 360  
ttgatagggtg ccaaagtagt gattgtgcaa gctggatatt caggaaagcg tttatacat 420  
gaaagactga aacaattggg agttgaactg attattcagg actggacata cagttgggca 480  
cc 482

<210> 4173  
<211> 377  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-F9

<400> 4173

ggatggaatg ttttcatttt ctaggtttca atattttggtg tttatcccag tctatctggt 60  
tcctgccgaa gcatttccaa ctggaattcg tgcgactatg tatggcatct cttctgctct 120  
tggtcaaatg ggtggaattg taggcacgac aacttttcct agtatattggc tgcgatggtc 180  
tgaggagatt tccaaaacca acgagggact tcgaaagacg atgtgggttt atgggtggtat 240  
ggaatatttg gcattcatca tttgtacgct gtttgttcct gaatattctc atcgttctct 300  
tattggagaa gatacccggt ttgttgagtt gagaaggaga cattgtgctc gttttgctct 360  
acgttggaat gtcacct 377

<210> 4174  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-G10

<400> 4174

aggtaccggt caggaattcc cgggctctca atgaaggaag gattggaata agtgctcaga 60  
tgactgggtt ggctcaagggt gctttgaata ttatctttcc ctatttgcac gaaaggaagc 120  
agtttggaac gcgcattgga gactttcaag gtgttcagtt tcaatatgca gaagccatgg 180  
tcaagttgga agcagctcgt gccttggttat acaatgcctg tcgaaggaat gatgcaggct 240  
ttgatattaa aaaggaagct gctattgcca aatatttttag tgctcaagca gcggaatgga 300  
tagcctcgaa aagcatcgat tgggctggag gtatgggctt tgtgaaggag tttgggttgg 360  
aaaagtatta tagagacacc aaaattgggc acatttatga aggaaccgat aatatgcaat 420  
tacaaacgat agcaaaagag atgcaaaagg a 451

<210> 4175  
<211> 461  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-024-Q1-E1-H3

<400> 4175

aattcccggg ccgacccacg cgtccatgaa tataatggaa ggagaatggg aatgtatgga 60  
gtaataggag taatgataat gatgacgtta agaggggaagg gagtaatggg agtacatgta 120  
ggaatgtcat ggtagggat aagtagtgta ataataatgg gaataatggg aatgataaat 180  
gtggtaagta ggtcatataa aagcatggag tatatggaga ggataagaga agagagtagg 240  
gtgtatgtag gaatgagtat aataacagga atgatatgga gtaaagaagt gtggggatca 300  
tggtggataa atgatgtaag gaataaagc atgttagtat gctggatatg gttggaagta 360  
atacgaggag taaagaagga gtacagagga ataataagca gtataggaat aataaatata 420  
ccgataataa agtactcagt anagtgggtg aataccttgc a 461

<210> 4176  
<211> 399  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-024-Q1-E1-H4

<400> 4176

cgggtcgacc acgcgtccat ttggttggtt tcttggtagg aattgtagat tccccatggg 60  
caaaaaacct aattttaaac ccaaagggga aaattccttg ccttgggaaa ttccaaattg 120  
ctttggaatt gaaaaatacc acctataaat acaggggttaa caccttggtg aaaaacggag 180  
gtaaccattg ggaatcggat tatgaaaaac tcaacccaat tcacactgtg ccaactttgg 240  
ccttggacgg tcaaacaatt gggcattcat ttgccattat ggagtacttg gaaaagaccc 300  
ggccacaatt gcccttggtt ccaaaggacc cggctcagcg agcaaaagtt cgtcagggtan 360  
tanaaacagt aaatgcggat acacaaccac tgcaaaaatt 399

<210> 4177  
<211> 449  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-024-Q1-E1-H5

<400> 4177

ggctctaaaat taccgggtcg acgcacgcgt ccgcggacac gtggggaaga gaagagagaa 60  
tgctgggtgg agtagcgaaa caagagaagg gaagtaaaag gtaagaaaga ggaaaggttt 120  
acgagagaag gaagtanaaa gaagagagtg taaggcggcg tcataataga aatccgaaag 180  
gagtagaaga aaagagagag aagaaagaaa agaagagaaa agccgtactg aagaccgaca 240  
cagggtactcg aggagaaagg agacccaaat taaggtgaga gaatggacga taaggaacta 300  
ngcaaaagga tatggtatct gcggtagaac atatgaaaga agcagcaccg actgttttagc 360  
aaaaacacag cactctgcag aaaagagaaa atgtaaagta tagagtgtgc ggcctgccaa 420  
atagtagaga agaaatcgat gaaagtgaa 449

<210> 4178

<211> 295

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-024-Q1-E1-H8

<400> 4178

tcttgggagc agttgtacat tcaacatcat caaatgccaa agggaggaaa gaaagattct 60  
tcaaagaaag aagccacaag taaacctgca gcagcagatg ctacaaagac gacagaaaag 120  
tctggtccgg aagccaagtt gaagggaaact ggtgcaaaga aacaataaaa agttgactat 180  
gcatgtgcag tcctgttatg ttttgtgagt tctgtttgat agtttccagc tattcttttg 240  
gtagtgaata aagagaaaat tttttatatt taaaaaaaag gaaataaaaag gaggg 295

<210> 4179

<211> 346

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-A7

<400> 4179

tacaacaccc tatagtgagt cgtattaatg acgcatgtcg gaagtgttgt gagcagagaa 60  
agatttgaaa cgcgcccttg agttggatcc ttccaatgta gcattgaaga aaaagatgcg 120

cgaacttcgc caagttaagg ccgaacaaga tgcaaaggat cgcaggttat ttggaaatac 180  
 gtgtgcacgt ttaggacaaa ttgaagacga tattcataag aaatcaaacg aagaaaccaa 240  
 ggccaaagaa atcactgcct ctgaatgagc tcaacttttt ttacttgcag ttaccataga 300  
 aagaggatct aacatgttgt tttagtttta caacagacaa gagacc 346

<210> 4180  
 <211> 425  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-A9  
 <400> 4180

acaataccct agagtgagtc gtatgaatat cgtgtgaagc tcgacagcgt ctctacacaa 60  
 acacgcaagg tttcttggcg ggaaatactt gcgactacta gggtcgttac tttaaagaga 120  
 aatgtgagag cactggtcaa gtttttagtgg acttgtgagg gtattgctta tgagagccaa 180  
 cctgtgggtgt cagttgttta tctggcggtta gaggaagacg tgtgaaagga gagctttcct 240  
 ttatcggaca aggcagttgt accgaaaaaa cacttgtgac aacctgactc gattttactg 300  
 atagatatcc cgttcggttg tttttgtatt gctcgtcaag tcttgaacag agctggtttt 360  
 tatattttga tgacaaacag gacgagtttc ttgggttttg aagtaacttt tccgtctcca 420  
 aaact 425

<210> 4181  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-B10  
 <400> 4181

caatatccct atagtgagtc gtattatatg ccaactcgat taaaacacag tagaaagaag 60  
 agaggacacg tttctgcagg tcatggaaga gtaggaaagc acaggaaaca ccctggagga 120  
 cgaggaaacg caggtggcca acatcaccat cgaactttat ttgacaagta tcatcccgtt 180  
 tatttttgaa aattgggtat gcgatggttc catttgcaaa gaaatacact ttattgtcct 240  
 attatcaacg tcgatcgact gtggtcactt gtacctgaaa aagagagaga gcaaccgata 300

aagaaagatc aagcaatagt agtggatgta gtgaagcacg gtttttataa agtgttgggg 360  
aaaggcaagt taccgcgaca accgttgata gtgaaagcca gattcttttc gaaatta 417

<210> 4182  
<211> 377  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-B12  
<400> 4182

caatactcta taatgagtcg tattaacgcg tccgcccacg cgtccggaga ctcaatcatt 60  
ttctctttgt tttgtctttt gtagctgttt tcctcgtagc tcatgcagtt cccgttgagg 120  
aagatgcatt cagtttcagt cagacttttg gaaatgcttc tgcttcaggc aacgcctctg 180  
ttattccagc tacaaccaag atccccaagt tagaagtaac tagtagtgcc tcatcaaagg 240  
acaatggaaa agcagctcaa gtagactttg cagattactc aaagggatat ccttcgccta 300  
gctattttta cgctccttcc tacacatcct atgtggaatt tcctcaatat ccatectaac 360  
catcatgggc ttccttt 377

<210> 4183  
<211> 130  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-026-Q1-E1-B5  
<400> 4183

tatagtgagt cgtattatna ttaataaaaa aaaaaaata taagtaaaca aaaaaataa 60  
aaaaaaaaa aaaaaaaaaa aaaactatta aaataaaaca aaaaaatact aatgggaagg 120  
gggttcgggt 130

<210> 4184  
<211> 437  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-B7  
<400> 4184



acaataacct atagttagtc gtattacgac gctagttttt tgtgttctca ttcgatggat 60  
aatacgatac gtatttggga tgttcgtcct ttctttcaag gttctgatga ggaacgttgt 120  
ctaactattc taagaggtgc ttcccattct ttogaacgta acttggtgcg gtgtcgtttt 180  
tcttcagatg ggactcttgt cgggtgcagga agtgccgata agtttgtata tatttgggac 240  
gtggatagtg gagagttgca atatgcttta cctggtcacg atggtagcgt caatgacttg 300  
gctttccatc ccaaagagtc tcttattgca agtgcaagta gcgataaaac tatttatatt 360  
ggagaaatac aaaagactga ataagttaa attcgtattc acaatattat ctataaatat 420  
aggaaaatga agcaacg 437

<210> 4185  
<211> 370  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-C7  
<400> 4185

ctatagttag tcgtattaac gcgtgggggc cgcactctcg cgacggcctg acgagcatgg 60  
cagcagcggg agatctactt tctagaggca cagcgatgtg tgacaagtgg aaaatgaaga 120  
gaatcacgac gcttgaggcg caagagaaga tggatgagac agcgttccaa gtatcggagg 180  
aattcctcgg acgtctgatt tgaggagagt tcctaaaacg tggatgagct ctttgtgcaa 240  
ctctggcgca gtgagtatac cctgctacgg aagggttgaa ttgtttccga ggattgttcg 300  
caagttatga tataaggttc ttgtgggttt tgttttcacc ttggaaaact cagtctagag 360  
aggaaagagg 370

<210> 4186  
<211> 312  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-D10  
<400> 4186

acgcgtccgt aaggatgttt tcttggtagc agttgtacat tcaacatcat caaatgccaa 60  
aggaggaaa gaaagattct tcaaagaaag aagccacaag taaacctgca gcagcagatg 120

ctacaaagac gacagaaaag tctgggtccgg aagccaagtt gaagggaact ggtgcaaaga 180  
aacaataaaa agttgactat gcatgtgcag tcctgttatg ttttgtgagt tctgtttgat 240  
agtttccagc tattcttttg gtagtgaata aagagaaaat tttttatatt taaaaaaaaa 300  
aaaccgagac ca 312

<210> 4187  
<211> 451  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-D8  
<400> 4187

tagagtgagt cgtattagtt gtatgtggaa accgcatttg tctgcatttc tcataaacca 60  
accgtcgatc ctacctgcag ttttatccac taggaatcca ttcgttgttc gtcgacgttt 120  
gttgcaaaca actttgtgtt tcaaagcatc atcttcgtac ggagatatgg gttcacctac 180  
tgcattccacc aaaaaccttg tggctgcacag acccaagtcc atgaactatg aagcagtctt 240  
ggacttttta ttgcaaaga atgagcagtt tcaacgaggt ttccaaacag gtactatttt 300  
agaacacgaa acgttacctg aatatcgcca agcgttggca caaggtggac agaaacctat 360  
tgctacgata gtgacgtgtt gtgactctcg cgtcatccca gaagcaatct ttcaacaagg 420  
gttttgcaaa ctgtttacgg taagaacagc a 451

<210> 4188  
<211> 393  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-026-Q1-E1-D9  
<400> 4188

tacaatactc tatactgagt cgtattaaga ggaccgaatc agggtaagag gtagaggacc 60  
aagacgagaa gagagaatgc tgggtggatt agcgaatcaa gagaaggga gtaaaaggta 120  
agaaagagga aaggtttacg agagaaggaa gtagaaagag gagagtgtaa ggcggtgtca 180  
taatagaaat ccgaaaggag tagaagaaaa tagagacaag aaacaaaaga agaggaaagc 240  
cgtactgaaa acggacacag gtactcgagg agaaaggaga cccagattaa ggtgagagaa 300

tggacgagta ggaactacgc agaaggatat ggtatctgtc gtagaacata tgatagaagc 360  
 agcacctact gtttagcaaa aacaaaaacac tct 393

<210> 4189  
 <211> 280  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-026-Q1-E1-E11  
 <400> 4189

ctctagagtg attcatatga tgacttattg gtttacgcgc aactcgaact ttttaagacg 60  
 caaagccata tctatTTTTA gtattgtggg atttgtctgg ttaggagcca tctgcatggc 120  
 gattatcgga gcgtgggcct aagaataaaa tttgtttgag acgtcgtggg gcagatgact 180  
 cgcattgttg gtagttgggt caagtttgac aagagaaaac atttgttgct acttcttaca 240  
 aataaaaaag ttcaaggaca aattgtagat aaaacaaaat 280

<210> 4190  
 <211> 327  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-026-Q1-E1-E12  
 <400> 4190

ttctggaaga acataagtat ggagaatgga cagaggaaga tattgagctc tttgttcgtg 60  
 ttgccanaac atacggaagc ggtgacaaat ggggactatt tgctagtcatt attcctcata 120  
 gagtgggtta tcagtgtagt gcagcgtatc gtgagatagt gattcctcga ggacttataa 180  
 gagaccctaa ctttaaaatg actagaaatg gtaaagccgt atacgttgga aagtatcatc 240  
 actaaatgtt actttttgtg gctacgacat ttctgaaatg aataaaagcc ttttgcagtc 300  
 ttttcaacgc aaaaaaata aaaagaa 327

<210> 4191  
 <211> 435  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-E7

<400> 4191

tacaatacac tatagtgagt cgtaatatcg tttagcgttg gtgcctcatt aagccatcgt 60  
tgaactacat cttttatctc ttagcacaaa cacaattaa agaacaatgc gtgagggtat 120  
ttctctacat attggtcaag cagggtgtca agtagcaaac tcttgctggg aactttattg 180  
tttagagcat ggtgtcaacg ctgatggaac cattgataaa aagggaaca cagcaaacga 240  
agaagctttt ggtaccttct ttaccagac aagctcggga cgatatgttc ctcggtgtgt 300  
attgtcgac ttggaacctt ctgctgtaga tgaagtctgt accggtgcct accgccatct 360  
ctatcatcca gaacaactta tttccggcaa agaagatgct gcaaacaatt atgcaagagg 420  
acattatact attgg 435

<210> 4192

<211> 104

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-E9

<400> 4192

tacaattctc tatagtgagt cgtattaacg cgtgggcgga cgcgtgggaa aaagaaaaag 60  
aacaagcaa aaagaaaata caaatataaa aaaactgaaa aaga 104

<210> 4193

<211> 435

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-F9

<400> 4193

cacgcgtctg tagaaatcca tgaaagtga agcgagtaaa agatgaggta tagagaatgg 60  
cggtcctaac ggtaaggatc caaaggtagc gaagtaaata gacgtttgaa aggcgtccag 120  
tatgaaagga gaaacgagtg tagcactgtc tagtcgtcca actcagcgaa acagcaataa 180  
ctgtgaaaat gcagtaaact agcagtagga cggaaagacc ccataattct tgactagata 240  
ggtttaggga ggagagagaa tcatgaagta gaggaggtgg ggtaagagat gaaagaccac 300

tgcatgagga taaggaatct aactgagtaa ggaaaataag cttagctag tttggctggg 360  
gaagtaaagc ctaagaaaga gtaaattagg caagcaaagg catgagagaa gtataataac 420  
agaagcatgc ttgag 435

<210> 4194  
<211> 352  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-026-Q1-E1-H3

<400> 4194

gtccgaaata gtaaagaaga atcgatgaaa gtgaaagcga gtaaaagata ggtaaagaat 60  
ggcgcccaaa ataaagatca aaagtaccaa ataataaacg ttttgaaggc tccagtatga 120  
aaggagaaac gagtgtagca ctgtctagtc gtccaactca gcgaaacagc aataactgtg 180  
aaaatgcagt aaactagcag taggacggaa agaccccata attcttgact agataggttt 240  
aggaggagaga gagaatcatg aagtanagga ggtggggtaa gagatgaaag accactgcat 300  
gangataagg aatctaactg agtaaggaaa ataagcttaa gctattttgg ct 352

<210> 4195  
<211> 308  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-H5

<400> 4195

tacacgcac tacaagttgt cgtcattaac aggagctttg caatgcggat aaagatgtac 60  
tggaagagac tttaggatcg aacaatgcga agatcttcca tgattttgtc catgcaactg 120  
caccaaattt gtacgaagga caattttaa atgaatttta tgacttattt tgttgtttgc 180  
aacgaaaaag ataaagagtg acttgcaagc taacacacacaa aacacacacaa 240  
accacaaaca caacacacacaa aaaccaaacac acaaccaaaaa caacacacacaa 300  
aaacaaaaa 308

<210> 4196  
<211> 405

<212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-H7

<400> 4196

cacgcatccg ccagcgcgtc cgcccacgcg tccgcaagta tactgttctg ccaacgtttg 60  
 tccacacttg ggaacaccat tggatcaagg aacggtatct agtggtaact tgatatgtgc 120  
 tcagcataag acttcttgga ggctatccga tggaaaactt gctggaaagt ggtgtcctta 180  
 tccacctatc ttggggccgc tgttgggaaa gttgaaagct cctcaagact tgacgggtctt 240  
 tccagtcaga gaaatgaacg gttttattga ggctcttatt gacttggatg ctgctaaaga 300  
 gtttgaaagt aactattgga gaggaatatt ggacgctcaa ggtaaagcta ctggtggata 360  
 ttattaaata gcttgtccct aataaagttt ctgctggatt gttgg 405

<210> 4197  
 <211> 322  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-026-Q1-E1-H9

<400> 4197

ccacgctgtc cgcgaaatgt cctatttcag cttcaagggt tctatcctgt ttctcttcca 60  
 cagacaacaa agtcgagact gttgtgcac tttactgtgtt gcctcctttg ctaccaatgc 120  
 ttatttgcgg tagaatcttc gagcaatgcg tctttagtga gctcaatgat aatactgtgc 180  
 tattagaatg aactgcacca aagcacgtta tacttagtaa ctagttattt tgtccagcgg 240  
 aataatttta tctgtgttgc acttgttagca atgaaaacac ctagagtcgt gttaaaaaaa 300  
 aaaaaaaac aaaacagaaa at 322

<210> 4198  
 <211> 308  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-027-Q1-E1-B12

<400> 4198

gaagactgga ccaaggaaaa gtatcaaatt cgattggcta ttacgccgta ttacaagcc 60

gaacaggacc gtttggaagt gaaagagacg catcgtcgtc ttcgtcaaga agcagaactt 120  
atgacggatg tgcctgaata tcaaccggga gaaaatttgt acaaaacaag agagtttact 180  
ccctatgtca aaccgctagt acctggagtt ggccacaag gactttgaaa gttatctaaa 240  
gtgatgggtg ccaataaagc tggaatggag tttagttttg tgcaaaagaa aggtatgcat 300  
aaaccaac 308

<210> 4199  
<211> 281  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-028-Q1-E1-C5

<400> 4199

gcgtccgggc gttcagtatg aaaggagaaa cgagtgtagc actgtctagt cgtcaaactc 60  
agcgaaacag caataactgt gaaaatgcat taaactagca ttaggacgga aagaccccat 120  
aattcttgac tagatagggt tagggaggag agagaatcat gaagtagagg aggtggggta 180  
agagatgaaa gaccactgca tgaggataag gaatctaact gagtaacgac aataagctta 240  
agctagtttg gctggggaag taaagcctaa gaaagagtaa a 281

<210> 4200  
<211> 275  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-028-Q1-E1-E10

<400> 4200

ccgcttggtc ttgggnnga tccacnnccc agncgacgct ctcaggtcgc ggcctcccn 60  
cttggccggt tggcactgtt ggcagtggga ggctttcttc ctcacatgtt tctcactcat 120  
caaggtgtgg tggaacaact aactcathtt cgttcgttgc ctggtggtgg ggggtgcttga 180  
ggatatgtgtg tgtgtgtgtt tgtgtgtttc tgtgtggaat aataatgcag ttggaccatc 240  
gaaataaaag atggttttga catataaaaa acaac 275

<210> 4201

<211> 373  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-E4  
  
 <400> 4201  
  
 ttttcctcac ttggctttct cgtacgttct ctcaactcac agcacgttct ttcgacagcc 60  
 gtgcaccacc ttcttggaga ggtaagggtc tcggtttaat cggattaatt tacgtgatcc 120  
 agcccttttt ccgattcacg tcaattgctt tgggtttctt tcttgcgctt ttactccctt 180  
 ggtggaatga ctcaacttttt tcttactcat tctttctttt actgcataca ctacacgggt 240  
 tcctaataccg tttcaacttcc tatgctttct cgcctcattt actgtgtcat cctttcattt 300  
 ctttcctgcc tttctctaca catctccgca tttcatcgct ttctctcttc tctcctttcc 360  
 cttcaactttt aca 373

<210> 4202  
 <211> 167  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-028-Q1-E1-H3  
  
 <400> 4202  
  
 agagggaaaa cttgtttatt gaaagacacg tatttctttg gttgtacaaa cgttaactgg 60  
 catggatatt tctaacgttg tccctacttc aactacgcag aggacgtact tttcccctgg 120  
 ccatggtata gcatgcatcc acttgtgttt gtccacgctc tatgcac 167

<210> 4203  
 <211> 451  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-A12  
  
 <400> 4203  
  
 ccacgcgtcc gcaagaccga gggttggaac ggaatcgaat ttaagttgcc ttgtttttgt 60  
 cccgttgga cttgcaagg tttccatgaa tatttaaaat gtctctctca gtgcaaaaat 120  
 atttagtgaa tttggctacc tatgtgacca tcaaaagagg ggatataacg aaagagcaag 180



ttgacgctat agtcaatgca gccaatgaac aactgacggt aggtggaggt gtaagtggag 240  
ctattcatat agctgcaggt ccaaaatata cggaagcctg tttaaagggt cacgatgtaa 300  
tacggggagt tccgtgcccg actggagaag ccagaatagt gacaggaggg cagttaccag 360  
ctccatatgt catcaatact gtgggacctg tttattctag tgttccaaat cctgcagagt 420  
tggttgaatc ctgttacaga tctgttttgc a 451

<210> 4204  
<211> 514  
<212> DNA  
<213> Cyanidium caldarium  
<223> unsure at all n locations  
<223> Clone ID: LIB190-029-Q1-E1-A8  
<400> 4204

cggaattccg ggatcgacca cgcgtccgcc caccgctccg cccacgcgtc cgaatctttg 60  
tggattttcc tgggagagag agagagaaag agcgggaaaa aaagagagag agtgtccctc 120  
ctccttgtgt gtcggttttg gcgggaaaac aactgctccc tgtggctatt ttcgtgtgtt 180  
gtcagatcct aaggtggacg ctttcatgtc cattcctgac gttttaaaat atacaaagca 240  
aaacggggaa ctagacgcta ctccctatat agaagaatac aatacttttt atcagcacgg 300  
ctacgagtcc atagaagata gacaactaag gcagtcacag aaagcaaaag aatgtatatc 360  
tagtttttat aacctagtat cggactttta tgaatatggg tgggcaacag agttttcact 420  
ttgcttattt acaaaagaat gaacctctgg cgtgtggatt gttacgctat gaatacgtgc 480  
ttccgtggag gatgaaagta cancgtaaga taga 514

<210> 4205  
<211> 456  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-029-Q1-E1-B10  
<400> 4205

gtccaccag cgcgtccgca caccgaccg cccacgcgtc cggccacgcg tccgctcctc 60  
ctcaagttgg tttctcgagg attatttctt tgcaccctaa atattacttt tatatacaac 120  
ctataacatg gagcacaagt ccaaatgtg tagtaaagaa acaaaagtca accaactttc 180

gacatacatg gtatatgggt gataatcata gctctcggtcc aaagagcaat cgttttcata 240  
 tttggttaaa gtccttgaca actggacgca tatttcacg ttcaagtggg ggtactgggt 300  
 ctgttggtgg tggaatgggt ggaggtagtg gaggtgggtc aagtagtgca ggaggggaagg 360  
 gaaaagggtg tgcgcacccct ctcttggtt tctggatgcg ttacaatcga ctgttagagt 420  
 cgcgctccttt attgaccaaa gcacttactt ccttga 456

<210> 4206  
 <211> 323  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-029-Q1-E1-B11  
 <400> 4206

ttccgaggtc caccacgcg tccgcatatt atcacgtgaa aggctatcca gttgataatt 60  
 ctggaaaatc tgcaatgtat tgatatgtga taagaatggc aaggcttcag tttccttgta 120  
 tatactgagt ggaaacaagc taggtatcaa ccccaaagggt tggaatacac ccaacgcttc 180  
 tcgcaagggg tccaatgttt tactgataat aatgcctgaa aactcaaaat gtttggtggt 240  
 tcaaaggaca agcttcttat gaaaacgtaa aacctcctcc ataaaagcaa ccttcgacaa 300  
 aaaaaaaaaa aaaaatccaa aaa 323

<210> 4207  
 <211> 324  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-029-Q1-E1-C10  
 <400> 4207

cagacgcgtg ggtgcgtgtc gaggagcaaa acaagatgga cggctttcaa cagattgtct 60  
 cacctttttc caactttatg atagaatctt atcgtttggt gaggcgttgt acaaagccag 120  
 accgtanaga attcctcaag actgccggag caactgcagt cgggtttctg gttatgggat 180  
 tcattggctt tttcgtgctg ttaatacata taccataaa caacatcctt ttgagctaaa 240  
 aagatggaca cggttggtgt ttggactcgt tttgtcttct cattctttgg gacgttttat 300

cgaaaaacgc tgtttttctt aaaa

324

<210> 4208  
<211> 458  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-029-Q1-E1-C11  
  
<400> 4208

ttccaggtcc acccacgcgt ccgcagacgc gagggcggac gcgtgggcgg acgcgtgggc 60  
gggagaagaa atacgacctt ttccttcttc tgttgtggga attttctctt ggtacgaaaa 120  
tactccaaaa caaagagcag acaccgctgt tgtaattgcc tcaagactat gtctctttat 180  
aacaagaata tactggatcg attcaagttg gatggaaaaa tagctctcgt tacaggtgca 240  
gctcaaggaa taggaaaagc actagccatt gcgctagctc aggcaggagc tgctgctgta 300  
ggtttatttg acttgagtc tgagactctt cgtcatcagg aaaaggagct caacgccac 360  
ttttcttcca ctcaaataatt ggctttggta gcagtaagga aggatatcaa ccaactgtgtt 420  
gtgtactttg gaagagattc ttttattaaa gcacactg 458

<210> 4209  
<211> 456  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-029-Q1-E1-C12  
  
<400> 4209

gtccaccac gcgtccggca aagtatgaat acaggtggtg ctgagaattt ttcaccagcg 60  
gatatacaaa atttaatgaa gcaaaaactt caggaactca aaacaactat tgagatagtt 120  
caagaacaat ttcgagaccc aaccgcgacc actttcatct gtgttacgat agcagaagct 180  
ctttctatat atgaaacgga gcgtcttgtc cagcaactag cttcttacga gatggactgt 240  
agaaatattg ttgtcaacca gttattcgac ccacaggagg aacaaaagag tgaggcgcta 300  
ttgatccgcy ctagaatgca acaaaagtat ttagatcaag tgcaccaact ctattccggc 360  
gaaatgtgcc tcattaaagc gcctcttctg cctgaggaat tgaacggttt ggaacaactt 420  
gaaaagttcg ccaactacct gaaacttgaa gagcat 456

<210> 4210  
 <211> 540  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-C5  
  
 <400> 4210  
  
 ggaattccg aatcgaccac gcgtccgaac ttccttcaga acttccttat agtttggcaa 60  
 tggagcttaa taagggttct tcgtcggaac gaccatcgaa cgagtatcca aaccacacat 120  
 cgcaagatcc tgaacattg cgctctcata ttgccgatgc caagttacag actgaacaaa 180  
 caaagcgaaa agtgaaagaa attcaagaga aaatggctcg gttacgtagc gagaagaaag 240  
 tgcttcagga tcaaatcaag tcgtacgata ctgaaattca acaaattcgg tcgcagctta 300  
 gtgatgaaca agctaattac tatgtggaaa ctctcttttt cccgaatgaa atggaaagtc 360  
 gtcgaatgga tggaggagac aagattagca acaagaagag tatcaacaaa ggaacggaga 420  
 gtcttccttc ttctgaacct acaacggagg acttgccacc tccgccatct tatgacgaaa 480  
 ttgttggttc cgcaagtcct ccgaccaact ctcaaggcaa gtcagcaagt cctccaacct 540

<210> 4211  
 <211> 448  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-D11  
  
 <400> 4211  
  
 tccaccacg cgtccgcaca cgcgtacgga agaaaatggc tccaaaaggt gcaaagagtg 60  
 ttctgtttgc aggcaagaaa ccaatcacca aaagtataa aaagtccaaa aagaagaggt 120  
 cagagtacta tgctatcgac atttacaagg tcttgaagca agtgcacccg gatactggca 180  
 tatcctccaa ggcgatgagc atcatgaact cttttgtgaa cgatatattt gaacgtattg 240  
 ccagtgaagc tagtaaactt gcagcttatt ccaagacgaa gactttgact tctcgtgaaa 300  
 tacagactgc tgtacgtctg ttgtccctg gataactcgc caagcatgca gtttcggaag 360  
 gtacgaaagc agtaacaaag tacacttctt cgtaatacgt actttgaaca tatggtgttt 420  
 gtcaaacacct tttttgggag gacttgtc 448

<210> 4212  
 <211> 452  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-D12  
  
 <400> 4212  
  
 gtcgaccac gcttccgac gatcccaaga gtgcagactt tcgtcgcatt gcatcggaag 60  
 ctgcccgcac tattcctgga agagaaaatg gtggcaactg cgatatcaaa aacttgagtc 120  
 gaggaagtag agtttacttg cctgtgtttg ttccaggagc aaacttttcg ataggagacc 180  
 ttcatttttag tcaaggagat ggcgaagtat cgttttgtgg tgcgattgaa atgtcgggtt 240  
 atgcaattct tcggtgtcaa atcattcgcc aaggaatgga ccgttacttg agtccgatgg 300  
 gaccaaccaa actacatgtg aatcctatct tcgaagtgg acctttggag ccgagatatt 360  
 cggaatatct ggtatttgaa ggtgtttcgg tggatgagta cggcagacaa cattatttgg 420  
 atgcatccgt tgcctacaaa cgagccgtgt tg 452

<210> 4213  
 <211> 434  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-E9  
  
 <400> 4213  
  
 ttccagggtcc acccacgcgt ccggaagatt aaacggaata caactggcct cgggtctactc 60  
 ccgcctaaca actaccttca caaggaagct ctttttgagg ctttgtaact tctaaaaaac 120  
 atgtgtttta acgggataac gttgtatttg atgacttttg tgtcttttcc caagtgaaaa 180  
 cacccaatcc tttaacaagg agcacaagag tagaaattat ccggcgggct tgtaagataa 240  
 tttctgttgc ccaaaagaat cttgctgtag caagtgtccg ctttttagaaa ggaaaagaag 300  
 gttttcttag aaatatattt agagaaaaat cttgttccat attcccttac tctcgtatat 360  
 tcaagttctt ccaagttcta ccgtcaagag ggaaaattca agggaaactg agcactacgg 420  
 ttttgtttgt caaa 434

<210> 4214

<211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-G2  
  
 <400> 4214  
  
 cggacttccg ggatcgacca cgcgtccgcc cgcgcgtccg cccacgcgtc cgaccaatgg 60  
 gagaatgaaa taagagcatg gaacaacaac aagatgctcg aaaggtaact ccaggctatg 120  
 tattgttgaa aagttccgat gggtttgagt tttatattac cgaagaatgt gccaaagtgt 180  
 ccaagtttct gaaaactacg ttggaaagtg ggttctccga ggccaagacc ggacagttgg 240  
 tactcaacga aatacctggg cgtttattgg aaaaagtatg tgaatacttt tattataata 300  
 taatgcacca acaaaccgac ggaaacttgc ctcctttcga gtttcctcca gaaatagcgg 360  
 tagaactact tatggttgcc aactttctgg acacctagaa atgcttgcca cctagaagag 420  
 taagcaactc aagtatatat aaatatgtgc aacaaccttt ccac 464

<210> 4215  
 <211> 558  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-029-Q1-E1-G5  
  
 <400> 4215  
  
 ggaataccgg gatcgaccac gcgtccgcgg acgcgtgggt gctgctgcaa cggcagtgca 60  
 cctttgcaaa cttttcgttg tagcgcgtac agtagaaata ggcgcatatt tgtacttggc 120  
 aacacttata ccacagctat gagtattaaa agtacactga aagttacttt tgtaaccgga 180  
 aacaaaaata aactggaaga agtacgatca atactagcgg gactagataa ggttgttata 240  
 gagggcaagc acattgatct tccagaattg caaggcgaac cagaagatat cgccaaagag 300  
 aaatgcagac tagccgcaa agcagttgga ggtcctgttc tagtagaaga tacttgttta 360  
 tgcttcaatg ctttaaaagg cttaccggga cttatatca agtggtttct acagaaactt 420  
 ggtcacgatg gcctcaatcg acttttatat ggttttgagg ataagacggc ttatgctttg 480  
 tgtacttttg gttttcgatg ggagcaccga gtgatgcagt tgtgctttgt ggtaggacag 540  
 acggtatcat tgtacctg 558

<210> 4216  
 <211> 436  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-029-Q1-E1-G9

<400> 4216

```

ttcccaggtc caccacgcg tccgcaaacy cgtccgcca cgcgtccggt ttgtggtggg 60
aagattgacg acatgccaaa gaacaaagga aaaggaggga agaatcgtcg tgcaggaaag 120
aacgacaatg aagaagaaaa gcggaactt gtgataaaag aagagggcca agaatatgcg 180
caagtgactc gcatgttggg aaacggacgg tgtgaagctt tatgtttcga cgggtactcga 240
aggctatgcc atattcgagg gaagatgaga aagaaggttt ggattaatgc cggagatatt 300
gttttaattg gcttgagaga ctatcaagac gaaaagccg atattatact aaagtataat 360
ccagatgaag ctagagcatt gaagtctcaa ggagaaattc cagacaccac gaaaatcaac 420
gaagaagacg gtgaag 436
  
```

<210> 4217  
 <211> 461  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-A10

<400> 4217

```

ttccgggtcg accacgcgtc cgaccgtgca tgcgtgttcc tcgtcgtgct cctcctggcc 60
gccatcgcgg tggcaccgtt cgcgggcgcc gcacgcgtgg acgttgtgga gggtaggtcc 120
atggcatccg ccgatgcacc ggaggcgggc gccgatgctc ccgctcctag ccccgactcc 180
gcctcatccc cagactcgtc atcggaggcg ccctctagca gcagttcctc cgactagacg 240
caaaaacctc ttcattctct ggaataacta acagtatata cgttgcaccc tgatgatata 300
gaaacatgta cgtgcatcag tgtatggaat gcgagtggca aacacatgga atgtgcttgc 360
ctaattattg tttatttctt tatttattat atgtctctct cgtttgtttt ttatttttcg 420
taatgcaagt aatataattt gttataccca atatatatag a 461
  
```

<210> 4218

<211> 426  
<212> DNA  
<213> Cyanidium caldarium

<223> unsure at all n locations  
<223> Clone ID: LIB190-030-Q1-E1-B12

<400> 4218

taccgggtccc ccnttccgg gtcacccacg cgctccgacc gcgtccgtcc ttcctccggc 60  
tgggccgtcg atcccgtttt ccatccgggt ccaatccgat tcagccaacc gctgtgaatg 120  
atggcgctaa acctgttccc accagaccgg cgcgggcgtg gcggcggcac cggcggcacc 180  
acgagcggcc gtcgtcggcg cggcggccac ggccgacgc tcggccgtcg tcgctgcggc 240  
ggccaccgtg gcgcgcggcg ccgcgtcggc gcccgcccc gctccggcgc tccagctgca 300  
gacgatgacg gtggaccggg ccccgcgca agcgcccgac gcggtgaatc cggatctcgc 360  
catggcgtgc caggcgctgg tggaggccgc gctcgaggcg gatcacgccg acgtcgccgc 420  
cgagct 426

<210> 4219  
<211> 234  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-B2

<400> 4219

cggtccttat tccgggtcga ccacgcgtcc gaataaat ttt ggtattataa acgattattt 60  
aaatactgaa aaagattaat caaaaaatct tgtgtaacca atcatgttgc tcgagcattt 120  
gactttgcta gtggaggccg cttctgagga tgcatactaa attgcctgtc aattagaagt 180  
cctacatctt cgatagtgc ctctctcatg acttcgagtc atttcttgat aaat 234

<210> 4220  
<211> 444  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-B5

<400> 4220

taccggtcag taaattcccg ggtccacca cgcgccgca aacgcgtccg cggttgattgt 60



taaattatgg cggaccatga tcaagtggta gcgtacaagc gttcagaaga agaaaaatgg 120  
 agccaagcag gtgaaaaaag atggcagtta ttcaaaagac tggaaaaaga gaatgctact 180  
 gcccgttttt tcttacaaaa caaagctatt tttccagggtg ctagagtttt ggaactggct 240  
 tgtggttccg gagaaaccac tttgcaagta gctgcgaaag taagaggcta ttctgtacct 300  
 tcaggagaga ccacggggga agtgggtggat aaattgttgg atatattacg tccatcttat 360  
 caccaggaag ggaaactgga tgggtgccagc aatagtgggt cggtagtagg tntagatatac 420  
 gccaaaggaa tgctgaatgt gtgc 444

<210> 4221  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-B6  
 <400> 4221

taccggtcag acattcccgg gtccaccac gcgtccggat ggacttgctg ctgcaattgt 60  
 atcacaacca gcagataccg tactttccaa aatcaatcaa gtaaagaccg agggttctac 120  
 tgcaaaggca atcgttacga ttatgaaaca actcgggtgt cgaaggctgt tcttaggaac 180  
 aggacctcgt tgtttgatgg ttggatgggt gactgcaggt caattcttca tctatgatta 240  
 tgtgaaacaa cttcttggca tcttccccac ccaacaaagt gcgccaaga caattgctgc 300  
 aaaggctctaa aaattttaac taatgtaaga tggatggaaa acagactttg ttttcctgaa 360  
 aatgggttca gttgaactca ttctgtgta cttcgttgtt tgtttggaat gtttgcacg 420  
 ggatcatttt cagcatgggt acattttttc 450

<210> 4222  
 <211> 478  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-B7  
 <400> 4222

tacggccat cattcccggg tccaccacg cggtccggact tatagcgctt catgtcagtt 60  
 gcacatctttg tttggcttac tgggtccaaact gtcacacatg ataataagga gactcgtaac 120

acctgttgtg cacataccag atatggcttg ggacgagtac tttcctttcg gaatcataat 180  
 aggggacctt gcgtggaatc tagacgaccc atatcacaag gcaggctaaa taacttgacc 240  
 atgatgcccc ttggtgttcc caaggtagct taccgtgttc ctggtgctcc tcaagcagat 300  
 tgggtagata tttaaatcg actctatcgc gaacgtatta tattcttagg acaagagatt 360  
 gacgacgaga tttcaaacca aatcatagca gtaatgctct atttagactc tgaagataat 420  
 accaagccta tatatcttta tatcaactct cctgaggggt tccgttattg ccggtttg 478

<210> 4223  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-B8

<400> 4223  
 acgcgtgcat gtaccggtcc atcattcccg gggtcacca cgcgtccgaa gctcttccgt 60  
 atattctttg tgcttgaca atggttgcaa agactgctct gagttgcctc tttcgtctt 120  
 tccttagcgc tgccgcagtt gcagccgacg tagtttcaga ggagagatgg ggatatgctc 180  
 agcaatcccc acagcagcaa cagtgcacac aagtatgtaa acagtatgca tactatcaga 240  
 gtccagtctg cacttccgta accacacaga tcccatactg gacccaatgc tcgaagactg 300  
 tgcaaaccct tgtcccaagc cagtgcagta cttataccca atctectaca tggacctatt 360  
 gcagcaccta caccaccact agcgtaccat ctcaatgcag caaggccgtg actacttata 420  
 ctcatacctg ctgtgcttat gcccaacaaa ctctctatgc agtc 464

<210> 4224  
 <211> 350  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-030-Q1-E1-C10

<400> 4224  
 tttaggacaa ccaatttgtc gtgaatttga gctaaaaaat gtaatttaca tttgatctct 60  
 ctctctgctc taccgtaca gcagcaggca caagacgcag actgcttagg ggtcacaagg 120  
 cttacagtta catccccacg aacaaatagg aagcggctctg tgcccggtac gcctgacaaa 180

taagtgttac acccttgtcc aactacaggc ttgttcggtt agctctcaat ccatgtgaat 240  
tgaatgagat tggatgtgtt tgaatcgcaa acaagttaaa cttcttctta attttttcca 300  
atctcatcca atccatatgt tttagaaata accgaacaag gatttgttgt 350

<210> 4225  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-C2  
<400> 4225

acggtcgtat ttccgggtcg accacgcgtc cgcactcatt caaatgcgtc agagtgcctgc 60  
gacaaaaccc aaagatacct cttccacaac ttgtccgcta aaagatacac tgtttactaa 120  
aagggatatt tttattgtgc taatactaac ttttttatct tttctcaciaa ggttttatag 180  
actagctgaa ccacctgcag tggatattga tgaggccac tttggtaaatt ttgtgacttg 240  
gtactttaca ggagaatact attttgatat tcatccacca cttggaaagc ttattctgta 300  
tattggcggc gtacttgga aatataaac aggttttctc tttgacgcta taggagcggg 360  
atatggagaa acaaagtttt atgtgttacg ttgtgttgca gcaatatttg gaa 413

<210> 4226  
<211> 434  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-C5  
<400> 4226

gtaccggtcc atcattcccg ggtccacca cgcgtccgca gacgcgtggg ctattctaga 60  
ttgctcgctg tggagaagaa atggaacaac gtcattgctgc aacagacaac agtgggacta 120  
gttattggac acgttttagaa gccttggtga agcaatactt gccaaactcg caagttttca 180  
aggttttaag aacgttgga cgaaaacaca tatctttggt tgacaatctt tctattgacg 240  
agatggaaca actcttgaga gggaagcagt aaagaagtgg agaaagatat taggtggagt 300  
gtcctaggty acgtggaagg aattgttgtt ttgattttgt ttgtgtgtat tcaatgtata 360  
agcaagcaat aaatagtttt ttctacaaa aaaaaaatt cacatgcgta atgtaccgct 420

caaaaaaatt gcaa

434

<210> 4227

<211> 376

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-C6

<400> 4227

gtaccggtcc gatgcattcc gggctccacc cagcggtccg cacacgcgtc cggcgtaatt 60

acaagttgtc acgagatatg aaaaagggac aatgtcgttt ttgggaatat gctgtatttt 120

aaaacattgg ctagagctag tttcgaatac taaaaagtag ttgtgaaaaa aaaaaaaaaa 180

aaaagaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa gaaaaaaaaa aagaaaaaaa 240

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa acaaaaaaaaaa aaagacaaaa aaaaaaaaaac 300

aaaaaaacgc actacatgaa atgaaaatga aagggggggc gccctcagg atgtcacttt 360

ttacgagtgg gggaaa 376

<210> 4228

<211> 445

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-D1

<400> 4228

taaagagcgg tgtggatttg cgctttcttt ggtcactgtt ttttgggctt ttctctcgtg 60

tattttgccg ttttaaagct aggatattat ttatgtcctg tgatgttttg gtactagtct 120

ttttcgatgc ttttagttga gtgaatggct ctattgacac ctaagggtgc agttttgtgc 180

cattctctac atactaaact gccaaacttg gcaagtacac aaaaaatata catatgttta 240

tacagacccc cagcttgacg gatgagttca atgattgaaa aggaatcatg aaaagcaaag 300

gagtagtgga catgtagaga aagcacttga aaaagtagtc acgttcttgt acttgtctat 360

gtgtaacaac tgttttttgc ttgaagaggt tacaagtttg ttgtactoga caagctttcc 420

acgtgtcggg cagtcctttt aagca 445

<210> 4229  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-D10  
  
 <400> 4229  
  
 gtaccggtcc cacattcgcg ggtccacca cgcgccgat cctccaccac caccaccaag 60  
 ctcaacaaca gccagctcgc gaaaataatg aagagccgca gcatggcatc atcggccgcg 120  
 ctcttggtgc tagccctcgc gctagtggcg gccaccgccc cacatgtagc ggaggcaaag 180  
 aagaggagag cggcggagag cggcgaggcg gcggaggcga agaagatcca ggacgacttc 240  
 tgctcgacgc tgtgcgaggg caagaagggg acggacctgg tcgtgtgcaa ggagtccctgc 300  
 gcgctctccc agcagtccaa cctgggtgctg tacggcagga tccagtgcaa tggcaagtgc 360  
 accgagcaga atggcatcac ggcgccggc 389

<210> 4230  
 <211> 318  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-D3  
  
 <400> 4230  
  
 gatagacctt ctcttggaag gactagttct tgcttattat caaacagata tgcttgga 60  
 aattggaaag gttggttcga ttcttggaag agcaaactg aatatatcgt ttatgacgct 120  
 cggaagacac ttaccttcaa agatggcaat ggtattgctt ggtcttgata atgaaccaga 180  
 ttcttctact attgaaagga taagagttga gctgagtctt gaaagaaaac cgatactttt 240  
 agatctggat ggtcaacatg actgacattt cttctgtgtt gacataaaaag ccgttagttg 300  
 tagcataaat aattctac 318

<210> 4231  
 <211> 442  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-D4

<400> 4231

taccggtccg gatntccggg tcgaccacgc cgtcggaaaa cgaactagga gttgcacgaa 60  
cgtgagggac tggaaagtga tgttgaaaac tcctttgtgc gggcaacaga agcacaccgg 120  
tgagtatgag agtaaatega cccacacata ggaccaggaa cttagctgat tgatatgtgt 180  
gatggagtgg aaattgcgtc taggactttg atagattcag atggttcaaa tgctggtatt 240  
gcttttccaa ctggatgccc catgaatcat gtggctgctc attagacgcc caatgctgga 300  
gatgacacag tgtagatta tcgagatgtg atggacttg actttggaat acatgtcaat 360  
ggccatagca tatactctgg acgtaacaat gcgtttgatc ccatatagga cagcttatta 420  
ctggcagtga tggaaactac ga 442

<210> 4232

<211> 481

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-D5

<400> 4232

gtaccggtca gacacttccg gggtcaccca cgcgtccgga cttttattct ttagttttgc 60  
cacagatgga gcctgtgcta caagaaatac aagtcgatga gcctcttttc cagttatttc 120  
ctggtatgac taaacaagaa attgtcaatc gagctcttat ggtaagaaaa gaagctatgg 180  
agaaggagtc cctcatcga tgcgttgaag gtcttttctt cttgaaagaa acgttatata 240  
gaaatagctt taactccgaa gcttttccaa aagataagct accgaatctt cgtatatattg 300  
aagttggttc ttgttttggg gtggctcttc gtaagctggg tcttgatggg gcttctcggt 360  
ccaatgtctt tggttgtgat gtttccgaaa cttttgtgag ccttggatac aaattttttg 420  
acgataagtc tacctttggg gaacgtagtc gtctgttgag tgttttagcg gacaattttc 480  
a 481

<210> 4233

<211> 148

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-D6

<400> 4233

accggtcatg acattccggg gtcacccacg tcgtccagag gcgtatgcgt caggcattcc 60

ttgttgacac ccgattcgaa tctacgtcac tttcaacaa ccaatttgcc tcataatcga 120

ccagttacac cgtcgctaca cattgtca 148

<210> 4234

<211> 476

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-D7

<400> 4234

gtaccggtca gacattcccc ggtccacca cgcgtccgca caccggtccg cccacgcgtc 60

cgatgtcatt gaaccaaggc agtgaatcga gttcagcaag tgattatgac ggcggtgata 120

agtgtataga taataatggg atgcaaggag gaggagaatg taaagaacct agtggtgcag 180

aaaccaagtt tcctcgctgg aaagacactg ccaagagaat aagagatgtc gtcataatttc 240

ctctgatatc aggtcttatg attgggttag gaacgggtgtg tggaagacgg ttaggacagg 300

cgtggttcta ttcaaaggat gatgcgtatg tttccaagtg agacagtaac tgtaagtaag 360

gatatatggc agttgccctg tgaggcagcg agcgagcgag tgagtgagcg ggcgcgcgcg 420

cgtctttctt ttttttctt tttggtgggg aaagacacag agagagagag agagag 476

<210> 4235

<211> 290

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-030-Q1-E1-E3

<400> 4235

acggtcgtta gtcncggggc gcaccacgcg tccggagact tttctcatc aagttctatt 60

agagcgaatt ctagtcatta atcaaaagat aaaccaagtg cttgttcagg tagataaaga 120

tttgagagacc tggaatgaat atggcaaaga tattgtacaa gtaaaccaga taatacgaag 180

atatatgcgc aaactgaata ttacacagtc ttgatttttg aatataaaca ggagaatatt 240

atttctctcc aaaaaaaaaa acaactaaaa aatatggaaa aatcgaaaac 290

<210> 4236  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-E4  
  
 <400> 4236

acggtcgtat ttccgggtcg accacgcgtc cgcattgtgt ggtgggtggt ggttggagtg 60  
 agacacagac tatggcgatg gatagcttat cgttgttgta cgtcaccaac tgtccatttt 120  
 tateccaaca caaaagtttt attaccacca accctctttt tgcgtggtat gtaaaacacc 180  
 gcatttgccc catgagacaa cggaaaccag caccacatgg tcgtttgtcc atcgcttcac 240  
 ggtttgtgga acaacaagaa ccatccaata agcacctagg acaagatttt gccgttcaaa 300  
 cagacctatt gcagtcgac tcgagtgaga acttgaaagg gtttattaaa acgagagggt 360  
 gtttgactcc tgatgtgccg tttgtatttt ggtggtaaga aaagacacaa gagagagaga 420  
 gagagaanaa aaaattgtgt ccaactgaaga 450

<210> 4237  
 <211> 467  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-E6  
  
 <400> 4237

gtaccggtcc atcattcccg ggtgcacca cgcgtccgga gaatggtaat gtatggagta 60  
 ataggagtaa tgataatgat gacgttaaga gggaagggag taatgggagt acatgtagga 120  
 atgtcatggt tagggataag tagtgtaata ataatgggaa taatgggaat gataaatgtg 180  
 gtaagtaggt catataaaag catggagtat atgtaaaggc ctagtagtat agtaagtgtg 240  
 aaagggaag gaaaggagag aaagaggaaa gggatgaaat gcagagatct ctatagaaag 300  
 gcaagaaaga aaagaaagga agacacagta aatgaggcga gaaagcataa gaagtgaac 360  
 ggattatgaa cccgtgtagt ctatgcagta aaagaaagaa tgagtaagag aaaagggagt 420  
 cattccacca cgggagtaaa ggcgcacgac agaaacccaa agcaatt 467



<210> 4238  
 <211> 389  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-E7

<400> 4238

```
gtacggtcta tcattcccgg gtccaccac gcgtccgtag aaaagccttc tcgaaagctg 60
aacaggaag cctagcggaa ctattgagac aacttttggc cactgccact ccaactgcca 120
cagagatacc tctgccaact gaagctccag ttccaactga agtccaatt gttacagtaa 180
gaccgattgg tactgcagtt cctataggga caccattgt gtcacgggct ccacgttcca 240
caacagtttc caggaatacg tttctttcgg aacaaattgc tgctgtttc cagcatctag 300
tacattaaga cttttagcta atctcaccat cttttgtagt accaagattc taggtttgcc 360
caagtgacca gcacatcgtt gtgtggaca 389
```

<210> 4239  
 <211> 417  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-E8

<400> 4239

```
cacgcgtgca ggtaccggtc catgtcattc cgggtccacc cacgcgtcag gacattcttt 60
gtgtgcctcg tggaatccc gatcctttgt gggtatgcaa gttgcaacga gcttttcata 120
gcaacgacat tcatttttgt aagttacaag tggcgtggtg aataaggaat gcagtccaat 180
aatactggta caacattgcc taccggaata ttgacggtat ccgacgaatt agttcgtgga 240
gagtatgaag acctgagtgg gcccttgata gaccaaacc ggtcaaacta tttctttgag 300
aatctcgagt acattcggag aacattagct ggatgagaaa ccacaaattg aagagaatct 360
tcgacacctt tgtgatgact gtcattgttg tgtggtgttc acgacaggag gaacagg 417
```

<210> 4240  
 <211> 385  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-E9

<400> 4240

ggggccaccc acgcgtccgg aggggttccg ccgctcccgc cggggcgggc ggteccgccc 60  
cgacaggaag ggagtcaacg gcgcggccgt ggagaagacc atcctgaage gcctcccgcc 120  
cacggatctg gcgtctctgg tcagccctct ccctctcctt ccccgcgcca gtgcgggtgc 180  
ctcgcccggg ccgctcgtgc tctacgacga ctacgaggcg cggctgcggg agctgcagcg 240  
gcagcgcgac tgg tacttga tgagcaccgc gggcgcgggt ccggaggacc ccgcctactt 300  
gcacttgtcg gtggcgggcg ggcattccga taacgaggac ccacagcagt ggtecccgag 360  
gcgacgaccg tctccgtgcc ccgag 385

<210> 4241

<211> 365

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-030-Q1-E1-F11

<400> 4241

ttcccggggt caccacgcg tccgcacacg cgtccgcgat gaaaaccctt gttcctcctg 60  
gtcctcttct gcatcgtgca tgggtgagaag gaagagtcaa agggcatcga tgcgaaagcg 120  
tccgggcctg gtgggtcctt cgacatcacc aagttgggcg cctccggcaa tggcaagaca 180  
gacagcacga aggctgtgca ngaggcatgg gcatcggcgt gcggcggcac tgggaagcag 240  
acaatcctca tacccaaggg cgacttcctt gtcggacaac tcaacttcac aggcccttgc 300  
aagggcgacg tgaccatcca ggtggatggc aatctgctgg cgaccacgga cctaagccag 360  
tacaa 385

<210> 4242

<211> 475

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-F5

<400> 4242

gtaccggtca gacattcccg gggtcaccca cgcgtccgga catatccgcg gagatgttgc 60

aaccaatcct actcctgctg catcgttacc aagtaataat ggtgcagatg atggattggc 120  
atccatttat ggcgagtaca atgcaggtag ccaaccaact agcgatacag tcgagtcttg 180  
ggatacagga aatgatagtc cgcaaggtaa tgccgataca gagtcgaatt tcaaaagaga 240  
gtcgcaccga cgaagaagaa gaagaaatga actgcgtaaa agtagtgaac agagcacatc 300  
cacggaaacc gatccaaccg aacaaggaac tatccatgca gataccaaag atttgctttc 360  
aagtcgtcaa gatacagatg tgttggtggag ttcttcttca tcggacaaga catcttcggc 420  
aactgctttt tagtggtgac aagcagacga gtccaaaagc acaaacattc gaccg 475

<210> 4243  
<211> 142  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-F6  
<400> 4243

gtgtttatct catttgctat gaagtttccg tagacctgt cttcttgtgt cactgtccat 60  
acgattgtgt tttctccggg ggaattattg cttttctcaa ctcatgggat ttcattgacac 120  
acactgagca tgggtgtgcat cg 142

<210> 4244  
<211> 376  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-030-Q1-E1-F8  
<400> 4244

taccggtcca tcattcccgg gtccacccac gcgtccgcaa ggttctcttt gagatattcc 60  
ttacagtcgg gatagaaata gaacaactag gaacggttta tatgtatgtg tgtggttgta 120  
taaagcaaac ttacttggtt cactgagaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
ataaaaaaaaa aaaaaaaaaa aaaaaaaaaa aagaccatca atgaaaatag ttcaagactg 300  
agaaatacgt gtctgaacat aacaaaatcc atctacaaaa caaaataaat ttcaccatct 360  
ggatttaata acaaaa 376

<210> 4245  
 <211> 474  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-F9

<400> 4245

```
gtaccggtcc tacattcccg gggccacca cgcgccgga gatggctgga gcctgggcac 60
tgctcatcgt cctcgcggtt gccgtcgcg tcttgccgc gcggccggcg tctgcaggcg 120
ggggagccgc ggcggtggcg gagatctgca tgaagactcc gtcccccgac ctgtgcacca 180
ggacggcggg gaagcacgcc aacaagtaca aggtgggtga cgcggtgacg gtgctagaga 240
tgcagggtga cgcggtcaag aagcgcgta aggcggcgcg gaggctcgcc aaggaggagg 300
tcaagacggc cgcgacgccc gaggcgcgga gggcgctgaa cctctgcaag acctactacc 360
tggacgccgc cgacaacctc ggcgccctgca agcgcgccat cggcttcgcg gacgcccgtc 420
acatccgcgc cacgatgagc atggtggcgc aggacacgca gaactgcgac gagg 474
```

<210> 4246  
 <211> 418  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-G3

<400> 4246

```
aagcattgga caacaggcat gaaacaagca aaaagtggtc gactggcttt actagtaaca 60
gcagcaacaa caacactact cgttgggtgt ctcttggttg gtggttatgt aagggtagcc 120
atgggcaacc accgtggaga agactttatc acgttggggg aaccagtgca acgtttgagc 180
gtgtcctcgt attctaacgg gcgtcaagta tgtgccaatg caggtccctt tgataatgcg 240
agtctggaga ttgaatacac gcaacttgcc aataacaagg tatctgtcaa gctttgttct 300
tctgtggtgt gagaaccttc atcaccctcg tacacaacgc ccttgagaga gtgctctgga 360
aaaaagaaga gataaagaga cttctcggtg ccctcctcca aaaaaaaaaaag aaagaagg 418
```

<210> 4247  
 <211> 486

<212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-G6  
 <400> 4247

taccggtcca gaattcgcgg gtccaccac gcgtccgcac acgcgtccgc ggacgcgtgg 60  
 gcaagagaag tcagcagtgg ggaaaattgg gcaatgtaca gggaagtatg acccagtaat 120  
 gaggagtgga gtaaacagaa aaggaagtaa aaggaggga tgaagggaag ttatggcaaa 180  
 aacacgtgcc agcagcagcg gtaaacgtg tgtagcaagc gtagagcaga agaactgggt 240  
 gtaaaggctc agtagtagag taagtgtaaa agggaaagga aaggagagaa agaggaaagg 300  
 gatgaaatgc agagatctct agagaaaggc aagaaagaaa agaaaggaag acacagtaaa 360  
 tgaggcgaga aagcatagga agtgaaacgg attaggaacc cgtgtagtct atgcagtaaa 420  
 agaaagaatg agtaaganaa aaggagtc ttcccacagg ggagtaaagg cgcaagaaag 480  
 aaacca 486

<210> 4248  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-H1  
 <400> 4248

cctgccgcgt accggtccgt atttcncggg gtactaactg ggagagtaga acaaggtggt 60  
 gtaaagggtg gagatgaagt agaaattgta ggtcttcgta aggaaccttt aaagacgacg 120  
 gtcattggag tggaacatt taaaaagtcg ttggatcgtg gtcaagcagg agacaatggt 180  
 ggttgtttat tgcgtggagt gaaacgggaa gaggttcgtc gaggtcaa tctatgtaaa 240  
 ccaggttcta tcaagccaca taagaagttt gaagcacaaa tgtacgtttt gaaaaaggaa 300  
 gaaggaggtc gtcatactgc attcttttcc aaatatcgcc cgcagttttt ctttcgtact 360  
 gcagatgtta caggcactgt gacacttcca gatggagtgg agatggctat gccaggagat 420  
 aatcttacta gtattacgga gttgtttgaa cctggttgcca tgga 464

<210> 4249  
 <211> 307  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-030-Q1-E1-H11  
  
 <400> 4249

```

ggggccaccc acgcgtccgg agatacccaa tccgcctgaa tggaaagggga agttggccta 60
tataattaaa gaaacagggg caattgcaag gtttgggaag cacaagttag tttcaacaac 120
caaaacatcc actatgatgg ttgccgtacg tggctctgtt tattcacctg gacagtctgc 180
aactttctct ggccatcatg cttaccaagg ggctgtaaca agctggccct tgtcgagatc 240
tgctttcttc attgcaagtc caaggtggcc aggtcattca agttatgcac aagttattgt 300
tcctcct 307
  
```

<210> 4250  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-H3  
  
 <400> 4250

```

accggtccgt atttcncggg gccacccacg cgtccgaatt gaccttcttt tgcgcattgc 60
cgctgaaag tcgaagcaag tgggcgaagc gcatgaaaga aattattgag cctggtggcg 120
agttagtaac agtagttttt ccgattgggtg actacgaggg tggacctcct tatgcaatga 180
gtcttgaact ctacaagcag tttttagagc cgctaggctt cgagagcttt tatatgaaga 240
acataagtga tcaacttcca cctagttcca ttttcgttcg ctggaaactc tgtcagtaga 300
atggaaatca tattgaagtg aaagttaatt tcttctgttt tgggtggttg ttcgtctcat 360
tagtaaaact agagtgactc catctccc 388
  
```

<210> 4251  
 <211> 471  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-030-Q1-E1-H5

<400> 4251

taccggtcag acattcccgg gtccaccac gcgtccgaaa cgattggagc attggctgtc 60

gcattgaaat tggcatccac cgaagaattc aaagcctatc aacaacaagt attaaagaat 120

gcaaaacact tagcttccaa gttacaagaa agaggttatc atttggttag tggtaggcaca 180

gataatcatt tgatgttggg agaccttcgt cctagtggaa tggatggagc cagagctgaa 240

aaagtattgg aaatgatttc agtggcagta aataagaata cggttcctgg tgataaaagt 300

gcttttactc ccggagggtat tcgaatgggt actcatgcga tgacatctcg tggattgggtg 360

gagaaagact ttgatcagggt agcagaattt gtcgataagg gagttgcgtt ggcagcaaag 420

attaagaaga attcagggtc cacactcaaa gactttanag atgctctcca g 471

<210> 4252

<211> 350

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-030-Q1-E1-H9

<400> 4252

acgcgtccga agtgaatcac tcgttgattt gttgtagtac gaacagaaaa cggaccacaa 60

aaaactcgag gatgggagga agatcatcat cacaaggacg tttttgtag atgtatatgt 120

tgcttagctt atttttctcg ctgtgtgtaa gggcttctat gccctgccca tgtacatgtt 180

tggcttcttg ccccatggaa tatacaaagc tcatttcgct ctaaaaaaaa aaaaaaaaaa 240

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaacaaaaa 300

gaaaaaaaaa aaaaaaaaaa caaaaaaaaaa gggggggccg cccaaaaggt 350

<210> 4253

<211> 306

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-031-Q1-E1-A1

<400> 4253

cccacgcgtc cgagatgcat tgctagccgt tggtcgaatg agctgcgtcg accctactac 60

tcatggaact cgtacttana ggtatgaact ttttatatta cctacatata tggatcgaga 120  
tattctatatg tacgcttatt cacatgcact ccgaatgggtg tatggcacct cgaaattctg 180  
ccgaacgtag tcagtttggg aagaagctct taacagttta cggtaagcgt aaaagangcg 240  
cacggggtcg ctgggcatta atttctgaca atcgtacacg tggaattgca ggttttgctg 300  
cagact 306

<210> 4254  
<211> 413  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-A12  
<400> 4254

ccacgcgtcc gcattgcagg tgttttagctt actttttata gtcttggtgt ttggatacaa 60  
aaatttgat acaagtccca gtccgaagaa gagaaaagca agcaacatag attactttat 120  
agaagctgcc aatccgagga ttgggtcatat aacacctttt attcaccagt gtttttttaa 180  
cgacaacctg tcaaatgccc cttctgtata ttcagtcagt aaatcttctg taactaggca 240  
taatcccaac tttttgtatc acttatggac ggagtcagag gcagaagaac ttatcaacag 300  
gttttatccc ggtcttcaac aagtatggag gaaattcaac gagtcgtttg ttttacgagt 360  
agactttttt aggtatattg tgttgcaactt ttttggtgga gtttatgctg aca 413

<210> 4255  
<211> 352  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-A4  
<400> 4255

cgggtccacc cacgcgtccg atcatttccc ctttttgttt gtttatcgtt tgtcaaagtt 60  
tggttggttt cttggtagca gttgtacatt caacatcatc aaatgccaaa gggaggaaag 120  
aaagattctt caaagaaaga agccacaagt aaacctgcag cagcagatgc tacaagacg 180  
acagaaaagt ctggtccgga agccaagttg aagggaactg gtgcaaagaa acaataaaaa 240  
gttgactatg catgtgcagt cctgttatgt tttgtgagtt ctgtttgata gtttccagct 300



attcttttgg tagtgaataa agagaaaatt ttttatattt aaaattgcac ag

352

<210> 4256  
<211> 457  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-031-Q1-E1-A5  
  
<400> 4256

gggtccacca cgcgtccgcg cttgtggcgt gtgaagtttt gggttaccttg aaataatgca 60  
gatatttgta aagacactta caggcaagac tataactctt gaagtggagc cttcagatac 120  
tattgagaac gtcaagtcca agatacaaga caaggaagga attcctccag accagcaacg 180  
tttgatattt gctggaaagc aactagaaga tggctgtact ctttcagact ataattattca 240  
aaaggagtct acccttcact tgggtattgcg tttgaggggt ggaatgcaga tattttgtgaa 300  
gacacttaca ggcaagacta taactcttga agtggagcct tcagatacta ttgagaacgt 360  
caagtccaag atacaagaca aggaaggaat tcctccagac cagcaacggt tgatatttgc 420  
tggaagcaa ctagaagatg gtcgtactcc ttcagac 457

<210> 4257  
<211> 467  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-031-Q1-E1-A7  
  
<400> 4257

attcccgggt ccaccacgc gtccgcccac gcgtccgcaa ccggcctatc agttgagacg 60  
taagacgggt gccaaagcact gcaacgaaca cgactgttgg gttattgtaa atggaaaagt 120  
gtacgacgtg acgttatttt tggataaaca tcctgggtgga aaggagcttt tgttgagcta 180  
tgcaggagag gatgctacag cagctctaga ggggtgctgga ggtcacgagc acagcaaata 240  
tgcttacaag ttgcttgagg agtattattt ggggaagctc tcttcgagtg aagaggaaaag 300  
ctcgaagggt gaaagaattg ggctgtttga cagcgacaag gggctctgggc aagtagttga 360  
cgtagataac ctggctgact ttaagaagcc tttgttgctt caaattggaa ggctcggaga 420  
gctgtacgat gtctgggtac actcatttcc aacaacggac catacag 467

<210> 4258  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-A8  
  
 <400> 4258  
  
 taccggatcg acattcccgg gtccaccac gcgtccgcac acgcgtccgg ttgcgaagcg 60  
 ttgtcgttat cgtctatggc ggtatttgaa agtgatatag ttggctctgc aattcacttt 120  
 acgaaaaagt ataattcaag gaggcgctac aaggagtgca tttcgtgctt tagtgcttcg 180  
 ggtggtaaac caggggtggtt cttttgacat aagccgaaaa ttactcgcaa cgggctatac 240  
 gactgataag ggtatgaaga ccaataatgg tgctgttcga gaaagtgact tttacgagag 300  
 agtcttttca agaatagctt caaagcgctc tgacttttgg aaagaagttt ctgtaacctt 360  
 aataatctct accaatgaca ccgaatccga taaaggtaat tcaatgtgga acgcgtttgt 420  
 taccaaagac cgtcagttgt t 441

<210> 4259  
 <211> 130  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-B12  
  
 <400> 4259  
  
 ccacgcgtcc gcacacgcgt ccgcataaaa ggagtcgcaa ccatttataaa agaaaaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaataaaaaa ataaaaataaa 120  
 aatagggggg 130

<210> 4260  
 <211> 440  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-031-Q1-E1-B2  
  
 <400> 4260  
  
 ccacgcgtcc gcacacgcgt ccgatatgaa agaagcagca ccgactgttt agcanaaaca 60

cagcactctg cagaaaagag aanatgtana gtatagagtg tgcggcctgc canatagtag 120  
agaagaaatc gatgaaagtg aaagcgagta aaagatgagg tatanagaat ggcggtccta 180  
acggttaagga tccaaaggta gcgaagtaaa tagacgtttg aaaggcgtcc agtatgaaag 240  
gagaaacgag tgtagcactg tctagtcgtc caactcagcg aaacagcaat aactgtgaaa 300  
atgcagtaaa ctagcagtag gacggaaaga ccccataatt cttgactaga taggtttagg 360  
gaggagagag aatcatgaag tagaggaggt ggggtaagag atgaaagacc actgcatgag 420  
gataaggaat ctaactgagt 440

<210> 4261  
<211> 444  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-B4  
<400> 4261

cggtccgaca ttcccgggtc caccacgcg tccggagaag gaagaagcag agaggggacta 60  
tgagcgagaa ggtggatagt cgagagggaa aaagcccaga agccaagata aggtatcaaa 120  
gtaaagaaag aaggaaaagg agaagaagag agggtaggct tagaagcagc aaaccagaga 180  
ggaaagcgtt aaagcatgaa agaaaagaaa tccgaaaaag aagagaaaaa ggtaagaaag 240  
aggaccgaat cagggttaaga ggtagaggag caagaagaga agagagaatg ctgggtggag 300  
tagcgaaaca agagaaggga agtaaaaggt aagaaagagg aaaggtttac gagagaagga 360  
agtagaaaga agagagtgta aggcggcgtc ataatagaaa tccgaaagga gtagaagaaa 420  
agagagagaa gaaagaaaag aaga 444

<210> 4262  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-B5  
<400> 4262

cccacgcgac cgcccacgac gtcaggctag agaagagggg cgtatggcag ctctttagg 60  
attcatcgaa ggtaacgacc cggaattgt aaaaatagct gtggatgcaa ttctggatct 120

tacgagccat ccagataatg cggaagtatt aagatcagag cgcggcctag taccagcact 180  
 aaaagcccta gtcaccgact ttgatacaac agaggttgca acaaggcaat ctgcgcatgc 240  
 ttgtttgggtt aacttggttg tcagaaattc agccgataac aacgcctttg tcgctgaaga 300  
 attggcatcg tgggcatca gaggtggttt aggatgaaag gatgcgtttg actcatccat 360  
 ctcttcttcc attctaaagc ccacagctc 389

<210> 4263  
 <211> 399  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-B7  
 <400> 4263

ttcgcgggtc caccacgcg tccggacgac gtccgcatgt ggttccaccg caatcacatg 60  
 tgaagcgctc gggttcaagg tccctacaaa ggggcttacc ctagatgata ataatagcac 120  
 catgtacgac aaacacggag tctgtcctct gcagtcctca aggacgagaa cgttcctgag 180  
 gatcacgccc atgagttgca agactattcg tccacagcca gtgttcaactg attctacaaa 240  
 agtacatcgg tcatcctgta actacgggtgt catgcagggc atactctacc tacaggatac 300  
 gtattgcaca ccctaggaca atttgataaa agttctacgt cccattggc tttcgacaaa 360  
 cttttcccca catccgaaag tgctgctcca cgaaaacaa 399

<210> 4264  
 <211> 439  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-C1  
 <400> 4264

gggtccaccc acgcgtccga gggtatcttg tcgtcgacgc cgattggagg ctttttcttc 60  
 cttgcgtcat catggtatcc aaaagtaggg acgtacgtcg gagactaaaa gaaagggcgg 120  
 caaggaaaga agcccagttg aagaccatgt ctgataagcc atcgaagcca aagatgaagt 180  
 ggtacccgac ggaagacaaa ccgagaaagc tttttttacg gaaaaaacccg caaaagcgta 240  
 ccaagttgcg ggcatccatc acccctggga cagtcttgat cctcttgtct ggccgcttcc 300

gaggaaggag gggtatcttt ctgaaacagc tcgcaagtgg actattattg gtgacaggac 360  
cttttgagtt gaatggcggt cctctgcgaa gagtaaata gcgttatgtc attgcaactt 420  
caaccaaggt ggatatcca 439

<210> 4265  
<211> 459  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-C10

<400> 4265

ggggccaccc acgcgtccgg atttctgtcg tccatcgtgg tagaatgagt aatcgtgttc 60  
caaaagagtg gcaagaagaa gtttcccaag tattgtttga taaagtaact atacaaaaga 120  
gaattggtga actagggaaa caattaagtg ccgactatca aagtcgtaaa cccgttctcc 180  
tcggtgtatt aactggctcc tttgtgttct tagctgactt gattcgggct atgacttgtg 240  
acctggagat acggtttatg agagccattt cttataaagg aacggagagc acaggaaacg 300  
ttaccatcga gggattagag tttctgaata ttgagtcacg tgatgttatt cttgtogaag 360  
atattgtaga tactggcttc actttaaagt ggatttgtga caagttggag gagttgaaaa 420  
ccaagtcact caaaatttgg acctttttgg tcaaaaaga 459

<210> 4266  
<211> 358  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-C3

<400> 4266

gggtccacgc acgcgtccgc acacacgtcc gcaccaactt gtccgaatat acggtgcagt 60  
tgatcagtcg agagtgggat attcaggaag taactggcgt atgtaagaca gtaacgggaa 120  
caggagtgtg tggtcagcag ccgataatgg agccaggatga aacctttaga tacgcttcca 180  
aatgtcctgt tcgagttcct tcgttctttg atccgtcgaa ggacaagttt gtgggctcaa 240  
tgcaaggaaa atatattttc attcgagggtg aagttgggtga agaagcattt gaagttaaga 300  
ttgctcgggtt tgggtttttat ttgaactttt cttgataaac tgtatagtat ttcatagg 358

<210> 4267  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-C5  
  
 <400> 4267  
  
 attccccgggt ccaccacgc gtccgaaaca atcagtctga taagagcact ttgaaagaag 60  
 cggaggagaa gctgcagagt gcagttcata ctggaacaga gaaagtttct caggtgttga 120  
 gcgacgtcaa ggaaactgtg acggagaaat acaaggaatg gacagcgcca aaaagtagcc 180  
 aagaagaagc aaaagaaaaa gcacaagaag cgaaagaaga ggctaataaa gcttttaatg 240  
 ctatgaaaga aagtgcgagt gccgcttcag aggctgcac agagaaagca gaaaaaatta 300  
 agcaggattt gaaggagtga agatacacag tagttttctc ctatagtgtt tttagtagta 360  
 tctgtagtga tatttgtctc gtgatgaata aaacacgggt attcgtattt cag 413

<210> 4268  
 <211> 357  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-C7  
  
 <400> 4268  
  
 gtaccgatcc agaattcccg ggtccacca cgcgtccggc aaatacgggc attccggcat 60  
 acgtaccaat tatcgaacgt agaaaggata tgtcatatac agaacaagag aaacgatggc 120  
 agcagcttcg tagaggaaga tacgtggagt ttaatttggg ttatgatcga ggaaccgtgt 180  
 ttgggtctcaa aacgggcggg cgtattgaaa gtattttgat gtcgttacct ctaactgcac 240  
 gttgggaata cgatcatcat cctgaagaaa attcaagaga agtcaacta gttcaagttt 300  
 tgagagagcc taaagaatgg atatgagggt gcaatggcaa caatgaaagt ctcttgt 357

<210> 4269  
 <211> 255  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-C9

<400> 4269

gggtccaccc acgcgaccgc acgttgctccc gtttcgtggt ggatttcaac tcgtacacac 60

acacatacat atatatatga atgaaaaatg ctgcaaggaa aaaaaaaaaa aaaaagaaaa 120

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaggaga aaaaaaaaaa 180

aaaaaaaaaa caaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa gaaaaaaaaa 240

aaaaaaagtg aaaac 255

<210> 4270

<211> 444

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-D1

<400> 4270

gggtccaccc acgcgtccgt ggtgtgtttg ttgcggttga aagagagaga gcaaaaagta 60

ttggagtgtt gtaaaatgtc aagttttcta actcgagcag ccttgtcatt gcgtggtgcg 120

atacaaaca caaaaacca gtggaccaac aatggagtag caaggagact ttatcacgaa 180

aaagtagtcg accattatga aaacccaagg aatttaggtt cgctagataa aaacgacaaa 240

tatgtgggaa caggtctagt gggtgccctt gcctgtggag atgtcatgaa gttgcaaata 300

cgagtagatg agacaggga aatagtagaa agtaggttca agacatttgg ttgtggttca 360

gctatagctt catcttctta tgcaaccgag ttgattcgag gaaaaacctt ggaagaagcg 420

agtaaaatta agaataagga aatt 444

<210> 4271

<211> 465

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-D10

<400> 4271

gggtccaccc acgcgtccgc acacgcgtcc gccacgcgt ccgctcggcg tcgtccgtgc 60

agtatttcat tttgttacat cacctaaaga aaacaaaaga gagaatatat aaatgggtcg 120

agtgagaacg aaaacagtaa aaaagtcggc ccgagtgatc agcgaggaat actattccaa 180

gctgactctg gactttcaaa cgaacacaag aatatgcgat gaagtagcac tcattccttc 240  
 caaacgactg cgcaataaga ttgcagggtt cgtaacgcac ttgatgaaac gtatccaaaa 300  
 aggacctgtt cgtggaatat ctcttatact acatgaagaa gagcgtgaaa gaagaatgga 360  
 ctttgttcca gaagtttcag ctatagatgt ggggtgaagtc aagatcgatc cagtgaccaa 420  
 aaatatgttg gaaccgttgg gttataaaaa tcctcogaat gtgggt 465

<210> 4272  
 <211> 431  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-D12  
 <400> 4272

ggggccaccc acgcgtccgc acacgcgtcc gccacgcgt cgcgccacgc gtccgcaacg 60  
 ctcttccttg ccatgaaata ttcgaagagt cgcttatcaa agatctcgac caacctccca 120  
 acttttatga cggcaggact atgtttcctg tctgggtgca cgtttagtcc aaagagagat 180  
 atatcataca aaaagtttat tcacccaact ctttcttcat tacttgataa tagcttgtgt 240  
 gaacgaaaac tgaaaacctg ttccaacatt ctctatcgga tacgagccca acaacagaca 300  
 gaaggaaaaa aagaagaaga aagaaacat caactcagtg attacgagtt tgcagaacgt 360  
 tgtatggatg gtgggtgccc tgtggaggat gttcaagaac tcttgggtcg tttagaggac 420  
 cgaagaaaaa c 431

<210> 4273  
 <211> 456  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-D2  
 <400> 4273

cgggtccacc cacgcgtccg cacacgcgtc cgccacgcg tccggatatt cctcgcaagc 60  
 aacaagcttt acagattgca ttagctcttc gtgatgaggt tgcggacttg gagaaggctg 120  
 gttgtaccat cgttcaaatt gatgaacctg cgcttcgtga aggtttgcca ttgaagaagg 180  
 aacgttgga tgaatattta gattgggctg tgaaagcttt tcgtcttagt acggtcgttg 240



cagcacccaa gactcagatt gtcacccatt tatgttatag tgactttcaa gatattctaa 300  
aagccatcga tgagatggat gccgacgtat taaccattga gaatagtcgt agtgatgatg 360  
ccatgttgcg tgcccttgcc aagtatgggtt attcacgtga tgtgggacct ggagtctatg 420  
atgttcattc accggctgta ccgagcatcg aatttt 456

<210> 4274  
<211> 186  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-D7  
<400> 4274

ttccccgcgc caccacgcgc tccgccccgc tctagtatga aacgaaagtc gaattcacia 60  
ctgtcaagtc atcaattgca cccatccatc aacacctgcg aacatgcagt ccaccatccg 120  
tacgacggaa agattcgagg attcttgact agatacgttt acataggagg gacgtgtagc 180  
attcac 186

<210> 4275  
<211> 446  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-D8  
<400> 4275

ttccccgggc gaccacgcgc tacgcccacg cgtccggtat ttggtgtga ttgttgctgt 60  
tgtttgagga ccatggtag cgccaccctc agtagtatgt ctagagccag cttatggctc 120  
acaaggttct tttgtacac agtcattctc ggtaagttgg tactttggtg gtggttggtg 180  
ttgtggggtg gctcagtcgt ttttcaaagc cttttctatc gccatagatg gagtgatggg 240  
aaaaaagggc gacaatgttt ggaatacaac ctttttatac aatgggaaag tcttcgactt 300  
ttgcgcatat agtgccacta cgatgattgt tacaagcagt aactttatcg gaaactcaca 360  
cacttgcatg tatgtcatcg ccttagcgtc gacgagcttc atcgtctatt ttatcctgtg 420  
ggtgcttacc attgtggacg tctttt 446

<210> 4276  
 <211> 349  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-D9  
  
 <400> 4276  
  
 ttccggggcc acccacgcgt ccggacgggg ataccggcaa gttttgagca tgccattaaa 60  
 cagtagattc gtatgtagtt gtcactctgc tcgtagcgga aaactaaaca ggtggaacca 120  
 aatgcaaaag cccgcaggta ctactaagat cgtacgataa tcacgcaggg gtggcaaaag 180  
 tggactatgg gaagagaagc accagtttcc tgtaatcgtc aatcacactt gctaagtgac 240  
 caggcaaacy ctccccaca tgatcacacc ttgtaactat aggtctcgaa ggaatctcca 300  
 ggttgcaagg tagtagaacc taaaactggg atttttttgg gagcatcca 349

<210> 4277  
 <211> 396  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-E1  
  
 <400> 4277  
  
 acgcgtccga agaaatgttg ccatcgttgt tgaacgccag agctcgagca tcagaggcgt 60  
 cgtactttcg aaaaggagag cagttaggaa cccacgagtt gagggaaaagt ataagtaagg 120  
 aagaagtgga aaaacttcga caagaaaaca gatcttttga ggaaaaaata aggagtggag 180  
 agtttcaagg tctgcctgag atcctacaga atgtctggat accatcatgg aaaccggaaa 240  
 acaatgttca taccattgaa agaccgcttc aggttccttt gaagagagaa aacaggtttt 300  
 cggtaaagaa agaacaagct ttgccacca gtgagctttc cagttctgca aggtttgcag 360  
 cacaccaca tcatgacttg accagagggg gatacg 396

<210> 4278  
 <211> 407  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-E12  
  
 <400> 4278

ggggtccaccc acgcgtccgc acacgcgtcc gagcgctctt ttgaattatt ggaatgagcc 60  
 ttttgtgatt ctggacgctt cttatccacc aagtacggtg gccaatatat tgcctccaga 120  
 acaactttgt ccatttgcag ttccagtaca taacaacaac gatggaacga caaagaaaaa 180  
 tccggttgct ttaccgaaag aatattttaga agctgtggat gaaaaggcaa agtctgtaga 240  
 cacactacga gaattgggtga ggcaacaaca aggaaacttg gacttggaac gaactgtaca 300  
 gcattatattt cgagaatggc tcatatctac aggaaatata agacaaattc atgacctcgt 360  
 caagttggca gagtcttttg aataaaaagtg gtgattttat gtaaaaa 407

<210> 4279  
 <211> 220  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-E2  
 <400> 4279

ccgggtccac ccacgcgtcc gaatcgggggt agaatgattc ggctgcacat ggattatcct 60  
 tgtcttttaa tactgtttcg agttccgtca tttgctcttg tatgagtttc tcataacata 120  
 aactctgttg ctgcgactgg ttggatgacg actcggcttc ttctgggggg caataccagt 180  
 caaagtgctc cttactcgat tccgcatgaa aaactgagga 220

<210> 4280  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-E3  
 <400> 4280

gcgtccgcac acacgtccgc tacaaatcga gaattggctc aaggtcgcaa agaaaaccca 60  
 tattacttgg ttatatttca gaatggacag ctgctttcct acagtcgttc cttgggaagc 120  
 aggagagaat ccgtttatct gtcattgtta tggctctcat tatgacagta gagccacgta 180  
 gtccgaggtc cagctctctg cttcccttgg ctctgtggat gggaggaaac attgttttca 240  
 agacttttaa ggaaaagatt tccgcaaaga gtctgacctg tgggtggacat aagtgtggat 300  
 acttagaata ggatttcgtt tgctaagtag cataaagttt tagtttgcca aagtgttaact 360

tacagggttt aaagttttca atccttttga agctcga

397

<210> 4281  
<211> 472  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-031-Q1-E1-E6  
  
<400> 4281

gtaccggatc gagaattcgc gggtcgaccc acgcgaccga cgaagaagat ggtgaatttc 60  
aagtttggga tatcgaacag aggaaacctt ttagtacagt tcctctttca ttttcacgtg 120  
atgcagtcac tttggcatat tatccagaaa gaaatgtata ttttgtggga agtcatgttc 180  
gcttgtatat gttggatcct cgagttggaa gacttcaaaa ttccgtatat tttctcaata 240  
atttacacgc ttcacatata cgcagccttg tagttcgta tcacatgttg actattggat 300  
ttggaacagg aaggcttttt ttctatgatt tacgcaaagg taatgagact cttgttcgaa 360  
acggtcacgc aggacttcga cttggctcgtg gttgggttcg tcaagagaat caaacggata 420  
gtcccgggcc tcacctcatt gaagactaca atcctgctgt atattgcatg ag 472

<210> 4282  
<211> 411  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-031-Q1-E1-E8  
  
<400> 4282

cccacgcgta cgcacacgcg tccgggagac ccaaattaag gtgagagaat ggacgataag 60  
gaactaggca aaaggatatg gtatctgcgg tagaacatat gacagaagca gcaccgactg 120  
tttagcaaaa acacagcact ctgcagaaaa gagagggtgt acagtataga gtgtgcggcc 180  
tgccaaatag tagagaagaa atcgatgaaa gtgaaagcga gtaaaagatg aggtatagag 240  
aatggcgggc ctaacggtaa ggatccaaag gtagcgaagt aaatagacgt ttgaaaggcg 300  
tccagtatga caggagaatt gagtgtatca ctgtctagtc gtacaactca gcgaaacagc 360  
actagctgtg aaaatgcagt aaactagcac taggacggaa cgaccccata c 411

<210> 4283  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-E9  
  
 <400> 4283  
  
 ggggccaccc acgcgtccgc acacgcgtcc gggcttcatt cggaagata agaaaccaa 60  
 ctttgcactt cctatcggag tttccatctt ttcattgggt ttcgctgggt tgctagctgt 120  
 cctggaacta gcacgagtag tatttggttt cgaatccgta cttggaccac taaaaatgga 180  
 actgagtttg gtctcttttg gagcagcagc agccccattc gttgttttgg aactatcgg 240  
 aactgttctt ttagactctc gcaaacttcg aacgctatcc atagttgtat aggaagacgc 300  
 caacgaagag gctaatttgc tactgcatc tgtataactt gtggatggaa ccggtggagg 360  
 agctttgctt cttgtagaac gaatagaaga tttgtcttca tcgttgctgt tgttgttgtt 420  
 tt 422

<210> 4284  
 <211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-F1  
  
 <400> 4284  
  
 ggggtccaccc acgcgtccgc atagtggcaa ctccgctgtc ttgaaagaca taactgcaag 60  
 tattgaaaag cctgacataa aatggataac taggacgaat ctcaagtact gtctgaattc 120  
 tgcagaagga aatgttacgg ttgacttgtc gcggcagtg agcttgaagg atatattttc 180  
 attgaagctt ctgcacaata actttaagtt ggcgtgtttt aatgatgcct tgtttttagt 240  
 ttaccaggc ttatcctttg ttattactgg taatcgtata ttctgtagac gctcggactt 300  
 gaatgaaacg gaagcattgg agtcctgctt ttcgtttatg aagatatgcc ccacgtacaa 360  
 gtcgttgag attcttttgg aaggcgagca aatttatgta gaagaactcg tgcctattgt 420  
 atttcgtttc gttgaagact ttcttcattt tcttt 455

<210> 4285  
 <211> 420

<212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-F12  
  
 <400> 4285  
  
 ggggccaccc acgcgtccgc aaacgcgtcc gcgccaaatg tctgctgcaa cttgtccaaa 60  
 gaaaagatat caaaaggaga aagtcttggg agaaggaact tttggaatcg ttaacaaagc 120  
 aaaggatata aagacaggtc aatatgttgc tatcaaaaaa gttcgaatgg gaaattccaa 180  
 ggatgggtgtt gcgatacctg ctctacgtga gataaaaata ttgcaagatg ttcgacacga 240  
 gaaccttatt aacttggttg atgttttttg gacaagcagt aatatcaact tggatttcga 300  
 ttattgtatc gcagacttgg aacaaattat caaggacaaa acgattgcac taagtacagc 360  
 agaagtgaag ggagccttga aaatgatact ttgtggagtt gcaaaacttc acgagcattg 420

<210> 4286  
 <211> 453  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-F2  
  
 <400> 4286  
  
 ggggccaccc acgcgtccgc ccgatgggtac cgtgctcccg aaatcatctt gactaattat 60  
 acccgatatt ccacatctat aaatgtatgg tcggctgggt tgtattcttg gtgaaatgct 120  
 gaacagaggg gttcctttgt ttagaggaac caattcaccc aatcaattgg aagttattgt 180  
 caagttactt ggaaaacctg gacccgaagc aatatcgcaa gtatgtgtaa aagagtatgt 240  
 ttcttatcgg attcttattt cagcaacaga ttcgtagcga tcgagcgaga gcacttctca 300  
 tgcagatgcc tgctaggacg ataccaaaat tggaagaagt ttttccaga gctcatcctg 360  
 aagccctttc cttgctaaag agactcttgg agtttgatcc gcggaagaga ccttctgctg 420  
 cacaagtatt agatgaccc tactttgcca agt 453

<210> 4287  
 <211> 364  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-F3

<400> 4287

cggggtccacg cacgcgtccg catgcattga tgagacctgg tagatttggg tcaaaaataa 60  
aaattggggtt ggcaaaatta aaaaggaaaa acgcaaatct ttcgaattca tgcaaaaagt 120  
atgaattgtg aacgcggaat tcgctttgaa ctattggctc gtttatgtcc caacacaaca 180  
gggtgcagaca tacgaagtgt ttgtacagaa gctgggtatgt ttgctataag agcgagaaga 240  
aaaacagtga cagaaaagga cttttttacaa gctattgaca aagtagtcaa aggatatgcc 300  
aagttttctt atgttagcaa atatatgata ttcaattaaa acggtattcg ttatatcga 360  
aaaa 364

<210> 4288

<211> 335

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-F4

<400> 4288

cggggtcaccg acgcgtccgc acacgcgtcc gcctgaatgc tattttacca ctttatctta 60  
acggccaaat tttaagaact cttcaagaat ccgtagcatc agagtgggcc agtcgaatga 120  
gtgccatgtc tgcagcttca gacaatgcaa aggagtgggc gaaagcacta actcttgttt 180  
tgaatcgagc tcgtcaagct gcaattacgc aggaaattgc tgaaatagtg ggagctgcgt 240  
cggcactgca gtgaagtttc gttotcaatt gttggggaat actttgggat agcgtggaac 300  
tttatataaa catagagtta tctgcaatat atagc 335

<210> 4289

<211> 471

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-F6

<400> 4289

gtaccgatcc agaattcgcg ggtcgacca cgcgaccgca cacgcgtccg ggagaaacga 60  
gtgtagcact gtctagtcgt ccaactcagc gaaacagcaa taactgtgaa aatgcagtaa 120  
actagcagta ggacggaaag accccataat tcttgactag ataggtttag ggaggagaga 180

gaatcatgaa gtagaggagg tggggtaaga gatgaaagac cactgcatga ggataaggaa 240  
tctaactgag taaggaaaat aagcttaagc tagtttggct ggggaagtaa agcctaagaa 300  
agagtaaatt aggcaagcaa aggcattgaga gaagtataat agcagaagca tgcttgaaga 360  
aaaagaaaga gatttcagaa agggaagaaa agtcagctat agagaacagg tgaaggagaa 420  
ctcaaaaaga ggagagcacc gaacgatcga agaagaaact ttggggggta c 471

<210> 4290  
<211> 205  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-F8  
<400> 4290

aattcgcggg tcgaccacg cgaccgatgc tttgaaacgc cagggtcgta cgttgtacgg 60  
ttttggtggt taagaggcaa acaaaaacat ggtgtttttc aacaccacca gttgtgaaag 120  
aaacttgggt ttcagtctca gtagaccctt ccttgtttat gaaattagag ctttgcaaatt 180  
ataaaacact ttctttttac gttgt 205

<210> 4291  
<211> 434  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-031-Q1-E1-G10  
<400> 4291

gggtccaccc acgcgtccgg aatatttttg gcaatatcaa ccgaagactt gtcattcact 60  
cggcattcaa atgcctgaga gatatgcgaa tatcgagca gacttctttc cagattggta 120  
tatactaacc aagtgcgacg ttttggctat tagtaactct acgttttagtt ttaccagttg 180  
tttgttgaat cagcgaaaaa accccaagtt ttatagagct cattaccttt atcgatttat 240  
tgaaatagat ccttgaata cagaccaat tgtgcacaag gaggttcccc ttctctttgg 300  
gaagaggata tggaatgata tattgttggt gtatcgacaa caaggaataa gaggactttt 360  
gagaaatata ttttggggat ttcttttgta tagaattcgt tcacttttga ttggaatggg 420  
cctgggtttt cgaa 434



<210> 4292  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-G3  
  
 <400> 4292  
  
 ggggtccaccc acgcgtccgc agacacgtgg ggaggaattg gttgggtctct gtcgatggcg 60  
 tggaactggt tccgagaaac cggtaaaaac tggtttccac aacttgtaag ggaccggaaa 120  
 gtttggggcca ttcaaccaa ttgggatccc gttccaaggt tgtaaagggtc aaaccaaagg 180  
 aaaccaaagg gacaccattt caaggaccca attataccca agggaaaaaa tttgtgttac 240  
 cacaaattcg ggtgcaacaa acaggaacaa ggtttctccc cggttatggt attggtgtgg 300  
 ccagggattt taccctcaat gctttgcacc ctggtacact tatttttgaa aaaatccgca 360  
 ataaaaatgg gaaaaag 377

<210> 4293  
 <211> 441  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-031-Q1-E1-G8  
  
 <400> 4293  
  
 attcgcggtt ccaccacgc gtccgaacca gaaagaaagt ctgccaataa taaaaagaag 60  
 actacatctg cttcagaagg tcaatcagag cttcaatata gacgtcgcat tgtgtcttat 120  
 ggtgaagatg gaagtgtttt atttgaaagg gatctgcaac caggcgaaga ttttagtggt 180  
 gcgctggagg aatggaatga agaaagaagc aatttgggtg atactgttgt agaagcaatg 240  
 aatcctgaac tagattgggt acaaaatgat gttgaagaag agaaagtctc tgtgtctana 300  
 agaattccca agtggattgc agacgatgac gatttggatg aaagttaaga agaagaggaa 360  
 gaggacgaga cgaccacaga tgagatgttt tccgaaggaa gaagaaagt gtataaagct 420  
 gaaaacctgc actagttttt t 441

<210> 4294

<211> 382  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-G9  
  
 <400> 4294  
  
 gggggccaccc acgcgtccgc acaagcgtcc gccacgcgt ccgaaaggta gcgaagtaca 60  
 tagacgttct gaaaggcgtc cagtaggaaa ggagaaacga gtgtagcact gtcgagtcgt 120  
 ccaactcagc gaaagagcaa taagtgtgaa aatgcagtaa actagcggta ggacggaaag 180  
 accccataag tcgtgactag agaggtttag ggaggagaga gaatcatgat gtagaggagg 240  
 tggggtaaga gatgaaagac cactgcatga ggataaggaa tctaactgag taaggaacat 300  
 aggcttatgc taatttggcc ggggaagtat agcctacgaa agagtaaatt aggccagcca 360  
 aggcattgaca aaaatatcgc ag 382

<210> 4295  
 <211> 398  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-H11  
  
 <400> 4295  
  
 ttgcggggtc caccacgcg tccggacgtg gactttatgg ggaagaagtt actaagattg 60  
 agcaatgaat aaagacttga tttggcaacg tccaagtttc tggttcaagg ttgcaggttt 120  
 tagtggagca gctgctgtag gtttgggagc ctttgggtgct catggactcc gggcacgagt 180  
 cacagaccct tatttgttag aaatatggaa tcgtgcggca agttatcacc agatacatag 240  
 tttagctgtt tgtgctgcag cctgttgtgc aaataccgag ggaaaacctg cttttgtagc 300  
 agcgtcgttg ttctctcttg gaatagcgtt gttctctggt tcctgtatg ctttgacttt 360  
 aactggaaac cgaaaacttg gtgcaattac cccgtttg 398

<210> 4296  
 <211> 460  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-031-Q1-E1-H3

<400> 4296

gggtccagcc acgcgtccga atcaatgtaa gatgttgaga ccgcagtacg aaaaagttgc 60

aaagacttat cgccatgtga aaggagtggg gattgcagct atcgatgccg ataaatatgg 120

aaagattgca gaaaagtatc gaatcactgg gtttcctaca ttgaaatatt ttccagctgg 180

gaaagataag aaaccgatgg aatacgactc gagtcggatg gcagtagcta tgggtggactt 240

tatgaatcgt caagttgggt tggatatcga attgggagga gacgagttgg tacaagatgc 300

tggaagagtg gaagtgatgg atacttttgc acgcgacttt atgcagtcga ggaatgaaag 360

ccaacgcgag tcgattcgtc aagctgcgac cgaagcattg tcctcggatg cttcgttgaa 420

aggccaagta ctacaaaatg ccaagtttta tgtgacgggt 460

<210> 4297

<211> 462

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-H5

<400> 4297

attccccgggt ccaccacgc gtcgcacac gcgtccgcc acgcgtccgg gcaatcattg 60

actttgcaag tggaaagata taacactgat aagagaaaga tggaaattga tgaaccgcac 120

tttgaatgaa aggatacgtt tgtcacactt gctatgttag tactgggtga agtgtgcac 180

ttcgagactt ttctaaaagt gggtgagagt gattttgcta aacagtggat atcgatcagg 240

aaagatgtca cgaagtaagc tgttgagttg ttgtactttg gaggtttccc gttgatgaca 300

actgtatcag ttgagtcatt tttattgtgt tgaagctccg tttcttgag aactgatatt 360

tatgaattaa gtatatattt accgtgctaa ggtaattgg aaatgcttgg tttcatgata 420

gagagataca gcataaacag cttacatagt taatttgctt cg 462

<210> 4298

<211> 447

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-031-Q1-E1-H6

<400> 4298

ggggccaccc acgcgtccgc atgaatagag agcaaacaat atctgagaag cagcaacagc 60  
 agtcgaagaa ttttcgtttg ggaattgtga ctccaaatat ggcaagtgga accgctgatg 120  
 taggtctgat aggcttagct gtgatgggac aaaacttggc actgaatatg aacgaccatg 180  
 gatttaaagt agcggttttt aacagaactg tctcaaaagt agacgacttt cttaacggag 240  
 aagccaagaa taccaacata gtggggggcg actcgttgca agagttttgt ggtcttttga 300  
 agaaaccag aatcattatt cttcttgtca aggcgggtga agcagtagat cagtttattt 360  
 ctatgctcgt gccacttttg tctagtggcg atctcatagt tgatggggga aactccact 420  
 ttcctggaca cagacgatga acgaaag 447

<210> 4299  
 <211> 464  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-H7  
 <400> 4299

attcccggtt ccaccacgc gtccggaata atatagccgg aaggagatca tcttactcta 60  
 ctagecgtat atgaagcttg gaaagccaac aattattcta ctgcttggtg ttttgaaaac 120  
 tttattcaag cacgttcttt aaaaagagct caagacattc gcaaacaatt agtagctatt 180  
 atggaacgac aacgattaag tttggctctg gcaggaagag cctacaataa gattcgtaaa 240  
 gctatcgttt ccggtttctt tatgcacgca gcaaagaaag atcctcaaga aggttatcga 300  
 acgatagcag aaggacaacc tgtttatatt catccttctt cctcgttatt tcatattcaa 360  
 cctgattggg ttatttatca tgaattggta caaaccacga aagagtaggt agatgttctt 420  
 gtgcttagca ttctttatga ctcaaatac tattctctag atat 464

<210> 4300  
 <211> 379  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-031-Q1-E1-H8  
 <400> 4300

ggggccaccc acgcgtccga acgcaaattg ttttcagaac agcaagagaa gaagaaactt 60

gtgaatagaa tagaagaatt ggaacattat ttggaaagaa tcaacaacaa taaggaaagc 120  
agcaatacct tgtcgtcatc accacaagaa aaacaagata attctttccc aagtgcatt 180  
gttcgagaac aagaacaaca aattagtgtg ttatctcaac agttggcaca acgtgataat 240  
actattcatc agttgcaatc tcagttatcc aatgctttac aagaacgaga acaacatgag 300  
caacaacagc agtcattctg tttgtatgaa cataacatga aagaatatga agagaatatt 360  
cagtcattgc agtgtcaat 379

<210> 4301  
<211> 291  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-032-Q1-E1-A6  
<400> 4301

cgggacgacc acgcgtcggg taaaagtgc aagtgtggga tttcagtgc ggtatcgaca 60  
atgcaagcgt tttggcccaa ctaatgacca aaaaagatga caagaagcag aaataaaaac 120  
cgcatttact cttcttttag ctttaagaaa aagaggaatg agaactggtg agtacgttgg 180  
aaagtgcgcg gaaaaggggg gcggccgcac aggaggatag atgattacgt acgggtgaag 240  
gcgacgtaag agttcgaaaa tgggtgtcagg aaaaattcaa gtcaggggtc g 291

<210> 4302  
<211> 181  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-032-Q1-E1-A8  
<400> 4302

ggaattccgg gacgaccacg cgtcggggcca cgcgtcagga tgcattgga gaggatatgc 60  
atgcatgtgt tttcgtaagt ggagcagcga tgcttcaaac agtcgcaa at aggactgagc 120  
taaagtcaat gaaaagctcc ttgagacttt gtagtggtgt gtttgttccc aaacagagta 180  
a 181

<210> 4303  
<211> 326  
<212> DNA

<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-E2  
 <400> 4303  
 ccacacgtcg gacagaaaca actggaatta ccctagtagc ggcgagcgaa gcgggaagag 60  
 cccactatga gaatcctctt tttcttttga gaaaagaaga gatgtatttg aaaaaagaca 120  
 agaaatatct gcagcaagaa aagagcaaatt ttcttggaat ggaatatcat ggaggggtgag 180  
 aatcccgttt atctcttttc tttgtatgga agctgcgtta cgatatttcc tgttgtggag 240  
 tcgggttggt tggtagtaca gccttaattt tgtgggtggt ataaatcatc caaggctaaa 300  
 tacgtaaaga gagaccgata gcgaac 326

<210> 4304  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-G5  
 <400> 4304

accacgcgtc gcggcaaagt atagagtgtg cggcctgcc aatagtagag aagaaatcga 60  
 tgaaagtga agcgagtaaa agatgaggta tagagaatgg cggtcctaac tgtaaggatc 120  
 caaaggtagc gaagtaaata gacgtttgaa aggcgtccag tatgaaagga gaaacgagtg 180  
 tagcactgtc tagtcgtcca actcagcgaa acagcaataa ctgtgaaaat gcagtaaact 240  
 agcagtagga cggaaagacc ccataattct tgactagata ggtttaggga ggagagagaa 300  
 tcatgaagta gaggaagtgg ggtaagagat gaaagaccac tgcagtagga taacgaatct 360  
 aactgagtaa ggaaaata 378

<210> 4305  
 <211> 450  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-032-Q1-E1-H7  
 <400> 4305

ggaattccgg gacgaccacg cgtccgcaat gagcagattg agcatctcac tcgagaattg 60

gagttatctt catcaagggg agctatatgt aaaaacaagt taaagttggg acagcgaagt 120  
 tgggaagtag atttcagtga gattaacaaa ttagaaaaga ttggatccgg tgcctattca 180  
 gaactattta aagcagaatg gagagggcac attgtagctg taaagttgat gaaagctcaa 240  
 gaaactcgga agaatcctgc gtcatttcat gacaagtga acacttcaag tgaacatcga 300  
 tatgtttatt atggcgctgt gaggcacaat tccatatacg atttggttga gatgtaaagc 360  
 tgaaagcctt gaaatgccac aattgaactg agaacacaag actgttgac aaatacacca 420  
 gtaacaactc tcaaactga cgtacgcaaa 450

<210> 4306  
 <211> 378  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-A10  
 <400> 4306

gatggctgtt tgcaattcgc ttgtggcgtg tgaagttttg gttaccttga aataatgcag 60  
 atatttgtaa agacacttac aggcaagact ataactcttg aagtggagcc ttcagatact 120  
 attgagaacg tcaagtccaa gatacaagac aaggaaggaa ttctccaga ccagcaacgt 180  
 ttgatatttg ctggaaagca actagaagat ggtcgtactc tttcagacta taatattcaa 240  
 aaggagtcta cccttcactt ggtattgcgt ttgaggggtg gaatgcagat atttgtgaag 300  
 acacttacag gcaagactat aactcttgaa gtggagcctt cagatactat tgagaacgtc 360  
 aagtccaaga tacaagac 378

<210> 4307  
 <211> 388  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-A6  
 <400> 4307

ggatatccgg atcgaccacg cgtccgatca tattcaatac tgacatgggt gaaactttag 60  
 agttggaaaa cttgttgcaa aatgctttga ttaccatata tggagcagaa gcacgtcatg 120  
 aaagtagagg tgcgcattct agagaagact atcctaagag ggacgatgag aactggatga 180

agcacactct cggttggatt tcctctccta agaagccttt tgtttcagga gaccgaaaag 240  
catatgtaaa actggattat cgtccagtga tatcggaac gttagatagc acagagcaag 300  
aatcttttcc tcctgtctcaa agagtttatt agatattatc atgtagaaag ccgtattctt 360  
ttgcaaataa accgaagagt gcatgaaa 388

<210> 4308  
<211> 315  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-033-Q1-E1-C10  
<400> 4308

gggtcgacgc acgcgtccgg acattaaatc ttcaggtcct catttcttgg ttgaacatgt 60  
gaaacgcact ttaggaatgg attttgcata tggaaatact ttcgaaaccg atgcaatggg 120  
caatttcact ggggaaataa gtcagcctat tgtgaatgcc agtagaaagg cagatttact 180  
gcaaattgta acgatgcaag aaagaataag tttggaacaa gtaattgcag taggtgatgg 240  
accggtatct ttagaaatgt tgtctcttgc aggaatggca atatctgtcg atcaggtatg 300  
gtattgtact cgttg 315

<210> 4309  
<211> 207  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-033-Q1-E1-C11  
<400> 4309

gggtccgagtt tacgggtcca cgacgcgtcc gcacacgagt ccgcccacgc gtccgaaaaa 60  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120  
aaagggcgga cgcacaaaag gataaaaggg tgggggtactc ttgcatgcaa cgtcatacct 180  
cgggggggggt gtcattttaa ttcaatt 207

<210> 4310  
<211> 402  
<212> DNA  
<213> Cyanidium caldarium



<223> Clone ID: LIB190-033-Q1-E1-C9

<400> 4310

ggtcgacgca cgcgtccggg tggccaaaac caccaaaccat ggcgagttgg attcgaagtg 60  
gttttcgtgt cacgaaacac attaccaaca agacaaatag aatattccaa cgaggaaaaa 120  
cggcgcgttc caaatcgacg accactgggtg atcgaacctg gttagccatc caagactata 180  
gccatcaaag gtttgcttgt cggaatattg caaagagaag tccaagtatc tccgacacta 240  
tttccaagaa taattgtgtg gtgagggact ctggctgtgc ttctcttgca actgctgctg 300  
cggactcttc caccaaagga cttgcttgctc tcgaggccgt agaaggaaaa gctgcatcgt 360  
tggcaaagtc tttggccgtg ttgggtaaaa atagtgatgt tg 402

<210> 4311

<211> 482

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-E11

<400> 4311

cgggcccggg cgagattacc gggtcgacgc acgcgtccgc atcttagggg tttattggat 60  
actctacatg tctcaatcag ttcgtctatt cattggaaac ttgtcgtgga agactactag 120  
cgaaagtctg aaacgagcat ttcaaaatgc cgtcgggtgca gaatcaagtg ttgtaaacgc 180  
acacgttgct atggatagat attccggacg ttcaaagggt tttggatttg tgacctttac 240  
ttcaccagaa gaggctgcct cggcagtga tctgcttaat ggaaaggaag tcgatggcag 300  
agcaataagg gtggacttgg cacacgaacg tgaagaagga gtttcgcgcc aattcagaag 360  
gaacgaagtg gaagatgagt agcttttagg ataccactgt ctgttgatag aacagacact 420  
gctcggatgc gttatttgta gccagtcctt acagaataaa gaccacaagt gcgattcccg 480  
tt 482

<210> 4312

<211> 427

<212> DNA

<213> Cyanidium caldarium

<223> unsure at all n locations

<223> Clone ID: LIB190-033-Q1-E1-E12

<400> 4312

gggtcgacgc acgcgtccgg gaggaattcg cgtggcagtc attgactgtc agcctttacc 60

tgaaatagtg cagcaagtaa ccaacgaaaa aaattttaca ggatgttttc aggcactctt 120

tgataaactg gtggaagaaa gaggcgggtcc acaactccaa atggtatctt tcaacgctca 180

acaaggacag cttccagcgc ccgacgaaaa cttccacgct tatctagtaa ctggctcggt 240

ctcttcgct tacgagaaac gaccctggat tgagaaactt ggacagtttt taaagcatac 300

atacacaaca acccaagttc ctttgatcgg aatttgtttt ggacatcaga tgttggcaca 360

ggcactanga ggactttcgg aactttgtaa aaagggtcca gaggttggtt tgagtacatt 420

tacacca 427

<210> 4313

<211> 439

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-F12

<400> 4313

gggtcgacgc acgcgtccga aataatcgtc gattccgagt agcgatggcg aaaagtgaac 60

cggggggtgat atacataggt cacttaccgc atgggttttta cgaaaaccaa ctaaaggggt 120

ttttctctca gtttgaacc gtgctgaaag ttcgagtggc aagaagcata aaaacttatac 180

gaccaaaggg ttatgctttt gtgatgttcg cgaaccgaga agttgccgaa attgcttgta 240

gagctatgga cggttatttc atgtataaca aaattttggt ctgtaaaatg gtaccaccag 300

agaaagttcg cccgaatatg tttagaaagt tcgtgaagat tccctggaag aagctagaaa 360

agaaccgccg tgctttgccg ctcaccgaag accggttgaa gagactcaag aggaaacaac 420

ataaaagaaa caaagagct 439

<210> 4314

<211> 441

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-F9

<400> 4314

gggtcgacgc acgcgtccgc ccacgagtcg gagagatgct aaaaagtacg cttctcctga 60  
 aagaacaaga actgattgcc gatataaaag gaagaacgga ccgagtttta caagtcgata 120  
 ttgctggagt attcttctct gccgtttttt caggagtttt gatgattcct gccttttttg 180  
 cgttcaatat gttaattcca atagagcatt tgaggaacgg aagtacttat tttttcattg 240  
 cggtagtaat tctttgtttc gtagctattg ctgttctggc cattctgtat gtaaggtggc 300  
 ttaaaggaaa tgaaagaatg cgacttgagt tgctgttggg caaggagaag acagcaacaa 360  
 taacaggaac agtgaatagt tagaaacggt gatattcgta gatattcact acttttaaaa 420  
 ggatcttttt ctgcgttctc c 441

<210> 4315  
 <211> 433  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-033-Q1-E1-G11  
 <400> 4315

ggtccgagna ttaccggggc gacgcacgcg tccgcacacg cgtccgcca cgcgtccggt 60  
 cccaaatctc ttcattgttt tgtgccgtgc aagagcagca aacgctgcac gcatacaagc 120  
 acttgtttga gagctcaaat aaggcttcct caagtcagtg aagtacagca cgccagtttc 180  
 gatgagtgtg tacctctggc tagaaatata tgttttcgcc tgcaagagga gcctcaagat 240  
 gacgaagctt atgaagtttt aagggaatg ttatcacgag aagaaggcgc cagagctttt 300  
 ttogttgaat atctttctga ctttgagtta cgcttagcag ataaaaaacc accattttaag 360  
 ctagagaagc ttctgaagga ttgtgatgag catgtaccta atctccttgc tagaaatctt 420  
 gcaatgtcag ttg 433

<210> 4316  
 <211> 203  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-033-Q1-E1-G12  
 <400> 4316

ggtcgacgca cgcgtccgcc acacgcatcc ggcaaaacgg agtgacaaag ttggaagaaa 60  
atgcctcgag cagctaaagt tgtgtctcgc tcggttttaa gaaggtaacc aaaccagaga 120  
aaaccacccc cttataagga tgggccaaact caaacctcca ataacgcaa aagttccacc 180  
aatgccaaac cacatagata tcc 203

<210> 4317  
<211> 379  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-033-Q1-E1-G5  
<400> 4317

accacgcgtc cgactcaaag gaaaaggata cgagtcaact gaaagcggag aaatattata 60  
tatcggaagg tgtcttttga gcatttcatg agttacttac cgagactgtg aatgatttat 120  
gtccgtatcc gcttattgaa aacaaggaaa aaggtccagt ttctttttgt tctatttatg 180  
gtccaagcgg cgactgtttg gatcatatct ggtctggagt gttgccagtt ttgaatattc 240  
acgactatat tttctttcca aagattggaa gctttctatc cttgggttta cggaattta 300  
atgacttttc acgcaaagta gatactcggt atatcggtac tttgtgaata aaaaacaacg 360  
agttgtttta ttcaacaaa 379

<210> 4318  
<211> 428  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-033-Q1-E1-H10  
<400> 4318

gggccacgca cgcgtccgca cagcgcacgc cccacgcgtc cgcccacgcg tccgccacg 60  
cgtcgcgtcg aagacggaca tcctgtctgc atactttggg aattgctttt acaagtaact 120  
gcaacaaaaa atttcgtata atggagcctc ctttttggtt attaaagtcg cttaacaatc 180  
aggcaaatgc tatagtgttt ccaacgaaaa gataggattg caactcttca attacaacct 240  
agaatagctt atttgaaatg agaattcaag atgggtttacg ccaagcaggt cggaacgccc 300  
caacaaacaa agatagcttg ttgagaacca aaaggctcgag gcgaactctc gtctgctttg 360

agaaagcatt ctgaaaaaat gggttactag gcacaaaaca aaagtaaata ctaattttat 420  
tcattcac 428

<210> 4319  
<211> 311  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-033-Q1-E1-H11  
  
<400> 4319

cgcggtccgcc aacgcatccg cccacgcgct cgcccacgct tccgacaagt gtcgtcagta 60  
aatgtctctg tcttttcctt ttgaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaagaaaaa 180  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 240  
gaaaaaaaaa taaaaataaa aaacagaacg aaaaaaaaaa aaaaaataag gaaaaaacca 300  
tgagaagaca g 311

<210> 4320  
<211> 366  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-033-Q1-E1-H5  
  
<400> 4320

ccacgcgtcc ggcgtgatac taggatggga ggtttcggct acttttttaa gtcaactttg 60  
ttttctggca gacaccgga gattattcca ttggtttccg ctattgctct gtgtggagtt 120  
tgtgcggttt ttgtgagcat cgacaacttg ttttataatc caaccgtggt agctctcaag 180  
tcagagcggg aagcgtattc gcgcaatgag aggcaacgtg actatgaaga cagacccttt 240  
ttgaagctgg tgaaaccact tcgtgaccgt cctatcagtt ttatttcccc aaatgatgaa 300  
aatagcagga ttcctcatta gttggatagt aaaataaata gttgttgagc tttaaaaaaa 360  
aaacaa 366

<210> 4321  
<211> 144  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-033-Q1-E1-H9

<400> 4321

ggctgcacgca cgcgtccgta cattaaagag ggtagcgata ttcttattta aaaaaaaaaa 60  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120  
aaaaatacac ataaagaagg cgac 144

<210> 4322

<211> 446

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-A10

<400> 4322

ccgggtccac ccacgcgtcc ggacatcgct acgggaaatg gagtcaaagg caatccttgg 60  
tttctgtgta ctttaggaat ggcaagatat tactttgaat tagccaaacg attctcggaa 120  
tatgcaacgc tgaatatatc ttctcggttg atgctacctc tattagaaca ttgcggaacg 180  
tcttatttca agttgaatcc atctatgcc a tccacttttc atgttgagaga gactcttcag 240  
aagccacaat tgtgtcagat tgcacaagct ttgttaacag aagcggataa aattctgtat 300  
tctgtttatc gtcattgtacc agattcaggt atgttgacgg aagaaatcaa caggtatacg 360  
ggattcgaac aaggagcaaa aaaccttaca tggagttatg actcgtttgt tactgcagtc 420  
tggagcagga attattcctt gaacac 446

<210> 4323

<211> 382

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-A11

<400> 4323

tacggtccta aattcccggg tccaccacg cgtccggagg aaagaacgtt tcagttcaaa 60  
gcaacttata ttcaatagta atgacgccac aaggagacgat aagcttgtct tatacagaca 120  
agtgtctctg gaaaattcga ccagtttact tcaaatgtct ttccgtcaac ttttgttcaa 180

gtctatgtgg aagagaaaag agagaacact gtatttgaaa gctgacctag tacaactggg 240  
 gcgtcttgcc gagttgaggt gaacaattta aatgaaatga atagtctcat gtaccggaat 300  
 aggttcacag gtaatTTTTT tagcagtcac gtggtttcct gacgatggaa actcgcaaag 360  
 aaaagTTTTT tgatcaatac ag 382

<210> 4324  
 <211> 462  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-A12  
 <400> 4324

taacgggtccg aaattcccgg gtccaccac gcgtccgctg gaatttccag tgtccttgcg 60  
 gctccattat tggcaggaat tccactgaca cacaagttt ggagcaaaag tgtgacacta 120  
 gcaactggac atgatttgtc acagttagac tttgagtggc tggcaaagtc ggaaacttta 180  
 gttttcgtca tggcaaccag gtcattatct gaaatagcac aaagactagt agaaaatggc 240  
 aaatctcctg atactctcgt agcagtaata tacaatgctg gaatgtcgaa tcaacacgaa 300  
 agctttggca ctttgaagga gtgggcattg ggaagtttaa aggtctgttt tgaaccagga 360  
 acggttatca ttggaagagt tgttcagtag gcctttgaaa aggagacctt gggtccatag 420  
 gaggagcttt gtagtcattt ggagttgcat atttggagaa aa 462

<210> 4325  
 <211> 330  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-A3  
 <400> 4325

ctgttttctt tattttgagt gtccttggtt tccttgcggt atgcaggata attacttgat 60  
 atctagtgtc gtcgctgag atagagtgtt actcgtttgt atcgtgagca taaacaacag 120  
 gtagttccta aaaaaaaca cataacagag agggagcaca gacaatcaga agtacaaaac 180  
 atacaactag gggggtgggc tgatcaacaa aaggccagat gaataaaaaa aaaaaaaggg 240  
 gggccgccca agaggatcaa accttactta gccgtgcatg caacgtcaaa gcccttcaaa 300

aggggcacca aaattcaatt cacgggccgt

330

<210> 4326

<211> 397

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-A7

<400> 4326

ccacgcgtcc gacagaaaca actggaattc acctagtagc ggcgagcgaa gcgggaagag 60  
cccactatga gaatcctctt tttcttttga gaaaagagga gatgtatttg aaaaaagaca 120  
agaaatatct gcagcaagaa aagagcaaatt ttcttggaat ggaatatcat ggaggggtgag 180  
aatcccgttt atctcttttc tttgtatgga agctgcgtta cgatatttct tgttgtggag 240  
tcgggttggt ttgtagtaca gccttaattt tgtgggtggt ataaatcatc caaggctaaa 300  
tacgtaaaga gagaccgata gcgaacaagt accgagagga aagaggtgta tgatgcaggc 360  
aaagaagtga cgcagtagat tagagagtaa cacatgc 397

<210> 4327

<211> 439

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-A8

<400> 4327

ggaatcatgg gactgaccac gcgtcgggca gagttaacta atctctccag atgaaacgag 60  
aatgagtagc tgtagccaa aaaagtgcaa taaataactca aagttttcaa tttattattt 120  
ctgagaaaga agaagaatga gaacgaggca ctattctaaa attatgcacg accctcgcaa 180  
gcccatattg agtagaaggc ttttccgtgg tttgtgggtc cgagagcgga gaaagcgtcg 240  
tatcgaacgt gattatggaa ctcttccgtc tccagcccc ttgaattcct atacaatgta 300  
tggtggagca acggaagcgt tcttactttc ggcctttctt agtttccttg tactaagact 360  
aacagatgta aaggacttgt tgggtcttta aataaatctt gagtattttc gtatttataa 420  
gtaacgcgaa cggttgaat 439

<210> 4328



<211> 455  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-C10  
 <400> 4328

gtccgaaatt cccgggtcca cccacgcgtc cgcaacttct ggtctatcca ataaacttgc 60  
 tgccggtatt tttggtactg ctgttgcaac catgggaatg ttatctacga gttgtttcat 120  
 tttggcaatg gatgttttcg gtcctattca gataatgctg gaggtattgc agaaatgtca 180  
 atgcaaccgc cggaagtacg agaaattact gatcgtttgg atgcagtcgg aaatactaca 240  
 aaagcattga ccaaagggtta cgcagttggg tcagcagctt tagcggcatt tttgctgttt 300  
 cgtgcttata tcgatgaagt gaacaactac ttgccgtcaa atcgtgctct tacttctgtg 360  
 gacttgagtc aaccggaagt gtttgttggg ggcattgatg gtgcaatgtt agtgttccta 420  
 ttctcgggct tagctatacg tgcagtcggg aatgc 455

<210> 4329  
 <211> 460  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-034-Q1-E1-C11  
 <400> 4329

ggtccgaaat tcccgggtcc acccacgcgt ccgcacacgc gtccgcccac gcgtccgtat 60  
 ttaatttgtg gagaaagcgg tggtgggaag tcttcattat tgcgaacttt agctgggttg 120  
 tggaacgatg gcgagggaaa gattagtata ctttccccag agagtacctt tttggtgcca 180  
 cagaagcctt acattgttct tggctctatt ttagagaaca tactatatcc aaagatggat 240  
 aactttgata ctttctccag tcaagacatt tcaagattgt tagaagaggt caatttgagt 300  
 catttaattg aacgtctggg tggcatcaat atttccatgg atttaagcaa catcctcagt 360  
 cttggagagc aacaacgact ggcgtttgct cgtcttttgg caagtaaacc aaagtttggt 420  
 ttcttagatg aaagtacaag tgcactggat gaggacaatg 460

<210> 4330  
 <211> 346  
 <212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-C12

<400> 4330

attccccgggt ccacccacgc gtccggatcg ttccagctta taacttgcca cctaattgcag 60  
aacatatcaa agttctccga gtagtaattc gagaaacttt ttccagagat ttgtgtgata 120  
tggtgtggag agatttaatg tggacgttgg aagaactgga cagaaaaact ccagattcta 180  
tccatcatgc caggggaattg ctgctggaaa ggaatcggca aaaacacaaa gcatttgctc 240  
atatggagcg ccaaaaacag aaaaccaagg gagtttgta gttttggata aaggactgtt 300  
gttggtgttg tagtgtttta tgaaggatat ttgataattg caaaaa 346

<210> 4331

<211> 429

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-C9

<400> 4331

tatacctaatt gcaaccatct taaagaaagc agaattacag cttgcattgg tatccatagg 60  
attaccagga tattatgtct cgttgtttgc agtggacaag tttgatcgga aaacttggca 120  
aatatttgga ttgtttatga tgggtggtat aagtattgtt attggagggtg ttttgccta 180  
tttgaagtct gtgcctgctg catttattat aacatatgga atatatttct tcttttagtat 240  
atttggagag tgcactacct atatgattcc atctgaagta tttccaactg ttcttcgtgg 300  
cactttttat ggaatagctg ctgcgtttgg aagaacaggt gctgttgtgg gaactcaa 360  
atttgaacct attcaaaagc cagttgatac tcatagtcac agcaatattt taggtgctcc 420  
agtagtttt 429

<210> 4332

<211> 273

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-D10

<400> 4332

ttccccgggtc acccacgcgt ccgcacacgc gtcccgccgac gcgtggggcga gaatcgattt 60  
actcttttttg gcgccaacac agaagtcact gtggaagact taaaacttcg gatctatcag 120  
atgaactaca cgtgtcacgc tggttcctct cttataaac gaaaatcggg ttctaagatt 180  
tggaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaatg gaaaaggaga aaaagaacta 240  
gaaaaaaaaa acacgggggtg gtagccacgt cgg 273

<210> 4333  
<211> 446  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-D12  
<400> 4333

attccccgggt ccaccacgc gtccgccac gcgtccgcc acgcgtccgc ggacgcgtgg 60  
gaaaaaggta agaaagaggc aaatacggga aagcagtaaa agaagaaaga gaaaggaaaa 120  
aactgagtat caggaagaaa agaggagta gatgaggaaa gaaagatcaa ggaaaggttt 180  
acgagagaag gaagtagaaa gaagagagt taaggcggcg tcataataga aatccgaaag 240  
gagtagaaga aaagagagag aagaaagaaa agaagagaaa agccgtactg aagaccgaca 300  
caggtactcg aggagaaagg agacccaa ataggtgaga gaatggacga taaggaacta 360  
ggcaaaagga tatggtatct gcggtagaac atatgaaaga agcagcaccg actgttttagc 420  
aaaaacacag cactctgcag aaaaga 446

<210> 4334  
<211> 231  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-034-Q1-E1-D9  
<400> 4334

ggtccgacat tccccgggtc acccacgcgt ccgaagacgc gtgggggtgg tccaagttgg 60  
gaaaacgacg tcgtcgaaac aagtcgtatt gcacagtgga attggatatc gacggctatt 120  
atggataaca aaataggaaa gcgtggaggt actttgaaag acgtttcagc aacagacgtc 180  
atttcaaatt aacgcaaatt ttttaaaaac gcaaccgaaa acttgaaact g 231

<210> 4335  
<211> 466  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-E11

<400> 4335

cggtccaaaa ttcccgggtc caccacgcg tccgtgagtt gagaccggaa gccaaacaag 60  
ttgtttcgtt ttttagagaa aagcacaaaa tggagtgttg gttagtaacc ggtgataacg 120  
atagcactgc atttgcagta gccagagcag tagggattcc gatggagaag gtggttttctc 180  
aagcattgcc tggggataaa gttaaagttg tagaaagttt attgcagaaa tatcaaagtg 240  
caacaggaaa ggccaagtct cgagtcgtat ttgttgaga tggagtgaac gatggtcctg 300  
cattagctgc agcggatgtt ggtgttgcca tgggcacgaa gagtcaatta acagcaactg 360  
cagctcgtgc tattttaatg actgataata tttctggact tgcgacactg tttcacttat 420  
ccaaagtcac ctttcgtcga attctgctca actacttttg ggcact 466

<210> 4336  
<211> 389  
<212> DNA  
<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-E8

<400> 4336

ggattcatgg catgaccacg cgtcgggcat tgggcgatga atacatcggc agaggcgctc 60  
ttcggcgtag aacctaacaa ggaagaactg aagaaagtat tgcaagtaaa cgcaataact 120  
ttagcaacat attttgctat tattcgtgct acaccttttg ttatcgatgt agtaaaggct 180  
attttcgaga aagagtagaa ggcttgagtt ttggttttgt tggcttgat tcttggaatg 240  
ttaccaact gaagaatcat tggaggctag atatgttggt agtgttttct ggtgtccttt 300  
gtgttgacag tttgtttttt ttgaaaaact aacaatatga taaaagtgc agaaaaaag 360  
tctccacgtg cagtgccag caccaatcg 389

<210> 4337  
<211> 456  
<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-F10

<400> 4337

attccccgggt ccacccacgc gtccggaatc gaatgtgtgg ggaatgttcc acaccttgag 60  
actttatcag aaacctcaac attctgcttg tcacatatat ccagcttttg cttttccaac 120  
aattgtatcc caggtcttct tatcgtactt gttgagattt tcaaggtggc gagaatatcg 180  
agggtggagaa ccgcaaatat gttctctttg tggaggcctt cgtgttatac cttgtgacgt 240  
ctgttcaggt attggtaaag taaacaaggg tgtatttaat agaaacaaca gtttaagaaa 300  
agactccttg gttggttctc cttggacagc tgttgttcca atccaaggga gacgtcactt 360  
tgtttgtatt atgaaaaagg gcaaaggcaa ggatgttatt gcagtcttac agaccacttg 420  
tggcaaaaaa gagtctagaa tttccgtaga agtacc 456

<210> 4338

<211> 444

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-F11

<400> 4338

ggtccgagca ttccccgggtc caccacgcgc tccgaattct gctggacctg acattattgt 60  
tcgagtgtct gtgcctatag atgctagtgc ttcgactcgc aagaagagac agtcttcttt 120  
gacccaagta tctatggata caggttccaa gaagagaaga gtctatttga tagggatagc 180  
attgaaatgt tatggaaagt ctggtgtcgg cgtcgctagg attaaggagg aagttaacaa 240  
gtttctagtc ccagtttcgt cacaattgga attggagagg aacgatattt gggctattca 300  
gttggtcgtg agtacaagtt acaataatga agtatccaat cattttgtac ataagcagaa 360  
ctgggtaatc gataccagaa aaaaggtttc ttcttcgtca tctactcctt cgcatgatat 420  
gaattactcg agtccgatt aaga 444

<210> 4339

<211> 466

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-F12

<400> 4339

ggctcctaaat tcccgggtcg acccagcagc tccgagatga agcgttgcgt aaaggggagt 60  
tgggttttcgc aaaaatattt tatgaagctt tacaagttgt tggatgaacca cccgacttga 120  
agaaaaagat tccatctcag ggaggagaaa caagaaagaa acccacaacc accacaacca 180  
caaccaccac aacgaatagt ttggatactt gtcttgaagt tgcattctct tcatcgatga 240  
atggcgatga tgataataat aattgtttcg tatcttcgaa tgaagagaag agaatatcat 300  
ctccagagtc ggacgcttca gaacagacgt ttgtggagcc tgctgctggg agtctatggg 360  
acaatcaaga aatgtttgga gatgcatcga ttgattcgga aggaattccg ttcttgaatg 420  
acactcacgt tagcagtgat tcgatgaagg tatcttccaa caatgc 466

<210> 4340

<211> 462

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-F5

<400> 4340

ccacgcgtcg gccacgcgt ccgccacgc atccggaaga gccaaagtcg atgaaagcag 60  
tttcttatga aagcacgcat agtggaaaag attccacttc gtttctgtcc gttgctgcat 120  
caacaaccga taaccggaag acgcaaatat ccgatcattc cattccatcc tcttccaata 180  
caaatatgag cgattctaag gagaaacaac agcctattca atgtaatgat gatagtttgg 240  
aagaatttct tcatatggat aaaaaaccaa aacgaagtat aagagacaaa ctcaagcaag 300  
tctaaaagga ataaatcatt tatatgcgta tatatatagt attaagttcg acccaggggt 360  
ggaaactcat gaatataaga ggatgcaggt tccttggata aataaatcga aggtcattg 420  
gatgcagtag gaatagagcc atttggtaaa aaaaaacaat ct 462

<210> 4341

<211> 410

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-F9

<400> 4341

gtaacggtcc gacattcccc ggtccacca cgcgtccgac aagagaagtc agcagtgggg 60

aaaattgggc aatgtacagg gaagtatgac ccagtaatga ggagtggagt aaacagaaaa 120

ggaagtaaaa ggaggggaatg aagggaagtt atggcaaaaa cacgtgccag cagcagcggg 180

aaaacgtgtg tagcaagcgt agagcagaag aactgggtgt aaaggtcgag tagtagagta 240

agtgtaaaag ggaaaggaaa ggagagaaa aggaaaggga tgaaatgcag agatctctag 300

agaaaggcaa gaaagacaag aaaggaagac acagttaatg aggcgagaaa gcataggaag 360

tgaaacggat taggaacccg tgtagtctat gcagtaaaag aaagaacaac 410

<210> 4342

<211> 133

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-G7

<400> 4342

accacgcgtc gaccgacgcg tgggtatagg gacatttttt gtttcgtttt tttttattct 60

ttcctccget ctatcatcat cgtttcttgt tcttctaaaa tagacaatcg aatgccttta 120

cctttcggca acg 133

<210> 4343

<211> 432

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-034-Q1-E1-H11

<400> 4343

tattaagcag aatttagtag tgactataaa tggtcgtgag cgatttcttt tagatgttgc 60

caacgtgttg ggtttttact gcacagctgt gtcagcggaa gaaaggaggt ttatcaagtt 120

gatatacct aagttcgcat tgaagtttgt gaaactgtca tatgagaagc atcctcccat 180

tcgttttctt cacagtatat tttcattgat tcgcccagag gactcacctt ctactcgagg 240

atataagttt caagtattac tttcgcatat tctttatgtg cgatggagtt tttgtaagca 300

actgggagaa ttgagtatat ttcgccagag tttggtaaac gagataccaa attgtactga 360

tgaatacatt gccagggttg tgccgtcggt taatgccacg atagatgagg aacatagccc 420  
tagtggaag ac 432

<210> 4344  
<211> 242  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-034-Q1-E1-H3  
  
<400> 4344

gcgtcggctc cgccgcgcatc tttgttaacg agaggcattt tggatgccat ctccggtgga 60  
attttaatat acacaggatt ggtggagttg ttgacttatt ggtttacgcg caactcgaac 120  
tttttaagac gcaaagccat acctatTTTT agtattgtgg gatttgtctg gttacgagcc 180  
atctgcatgg cgattatcgg agcgtgggcc taagaataaa atttgtttga gaaaaagaca 240  
gt 242

<210> 4345  
<211> 464  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-035-Q1-E1-A11  
  
<400> 4345

cccgggtcga cgtacgcgtc cggatgaggg ccaacgctgg tcaagatggc cttgtgcaag 60  
tcaacaaaca tagaacagta aagagattgc aagaagataa tattttgaat agagcactat 120  
cacaaccagg agatgtattt ctgtgctttt gcaacatcca gttgttggtg aatgcagaaa 180  
gagctatgat agggaatatt acttgtccag aaagtatcga attgtgtcgt ctattagctg 240  
gacatataac agtttggttc gatgaacatt tggatgactt tcgtttggaa gctatcttgg 300  
gagcactatt gtgtacttgt taatgtgagt ggcagcgttt tgaacgagaa ttggaggtac 360  
aagaatggaa tgaattggtg aagatatctt ccttagatac ttggaagctt gtgcttggtg 420  
caagacaaag agtggataat atgttacagc gagtacacaa gctg 464

<210> 4346  
<211> 405  
<212> DNA



<213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-A2  
 <400> 4346

gggtcgaccc acgcgttcga accacccggt ccgaaaaacc cgactcgcaa tgccgtagat 60  
 ttcaatcgag tctgggtgtca aacaactttt ttggcaccat cagattgtcc acatgtcaca 120  
 ccgtggcatc agttagtatt gggacgtttt cattcaatgg tcgagtaaca tgctcccttc 180  
 tctaacctgg acatgcattg gcatcaactt gtttgatcac acctgtatac agtatcaaag 240  
 cgaaaagatt gctatacagt ggcataatcta ggcatccggg agccttgtga aatagaggac 300  
 agtccatgcc ctgattaaat tcaaagacag attcccatga aaccatttgg acaatttga 360  
 ccagtcgaag aagatagata tcaactcaat acagtagtat tgcac 405

<210> 4347  
 <211> 415  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-A5  
 <400> 4347

taccggtcta gaattcncgg gccccggccg acccacgcat ccaccacgc gtccgcccac 60  
 gcgtccgccc acgcgtccgc ccacgcgtcc gccacgcgt ccgcccacgc gtccggcaag 120  
 aaaccgatgc gcaagtagtt catctcattc agccttccaa gttgtccgaa atattgaaaa 180  
 caacactgac ggggtgtcta tatattgcac tattacttgc gagtgatggt tctttggtag 240  
 caggtgcgaa taatcctaca aaggaaaaca cgtcaaacac agagttgcct gagaacagtt 300  
 ggtcttctat cggagcgtta atagcaggaa cgtggtcagt gttggaagat cgtgctagaa 360  
 actcccatat gggtagtct actggagatg agtaccttct cttggattgt acaaa 415

<210> 4348  
 <211> 377  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-A6  
 <400> 4348

acccacgcat ccaggcaaat acgggaaagc agtaaaagaa gaaagagaaa ggaaaaaacc 60  
 tgagtaccag gaaaaaaaaa ggaattaaat aaggaaagaa ggttcaagga attagaatta 120  
 ggaaaaggat tatggtgaat gaaaccagga aattatttga ggagaaaatg tgtaacgcct 180  
 accttttgca taatgtccca ccgagtgaag gaggaagcac aaagaaagaa aaagaagtat 240  
 ccacataaga cccgaagcta gatgatctta tgctgtccaa acgaagtatg gctgaaccac 300  
 tatctgtgga aaaagatttg ttagagatgg cataatgggt gaaaagccac tcatcgctac 360  
 tgataactgg tactcct 377

<210> 4349  
 <211> 420  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-A7  
 <400> 4349

attccccgggc cgaccacgc atccaatccg atcacctagc gatagttttg tgtgtgaaat 60  
 agagtcctca caaataactg tctatcaatt gaaagagaaa attagagaga aaaatccccg 120  
 gtggactcct gctcgacaac gtttgagcgt ccaacaacaa gactcgaaaa gaatcattct 180  
 tgaagacaac caaacactgc aaagctatga tatcaaagac aacagtgtta tttatatgaa 240  
 agacttgggg ttacaagtgt cttggaagtt ggtgtttttc atggaatatt tacgtcctct 300  
 cgtcacgtt cctctgttat cttacaacc aagcttgatt tattcttccc gttccaaagc 360  
 acttgaaca gaacaaaaga ttgccgtggc cgcttgggtc cttcattatg ccaagccaaa 420

<210> 4350  
 <211> 395  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-A9  
 <400> 4350

acggtcggaa ttccgggtgg cccacgcgtc cgcggttac gaaccctgt agtctatgca 60  
 gtaaaagaaa gaatgagtaa gaaaaaaagg agtcattcca ccaggggagt aaaggcgcaa 120  
 gaaagaaacc caagcaatt gacgggaatc ggaaaaaggg gtggatcacg taaattaatc 180

cgataaaccg agaaccttac ctctccaaga aggtgttgca cggctgtcga aagaacgtgc 240  
 tgtgaagtga gagaacgtac gagaaagcca agtgaggaaa agaaggcaag tagagggcgg 300  
 cccgagaaag gagagggcgt aagacgtgat acagagtacg aagaaaagag aagagagcta 360  
 gaaaggaagt aaaagaagag taaaaggact agaag 395

<210> 4351  
 <211> 220  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-B10  
 <400> 4351

ggtcggagtt cacgggtgga cncacgcgtc cgccacgcg tccgcttggt agcagttgta 60  
 cattcaacat catcaaatgc caaagggagg aaagaaagat tcttcaaaga aagaagccac 120  
 aagtaaaccg gaagcagcag atgcaacaag gacaacagaa aattcgggtc cggaagcaaa 180  
 gttgaaggga acgggtgcaa agaaacatta aaaagttgac 220

<210> 4352  
 <211> 328  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-B12  
 <400> 4352

accggtccga gatggcataa ggggtgaaac gccaatcaaa gctagtata cctggtaccc 60  
 ctccaaaacc aaaataatta ccttatcaag aaaaaaaaaa ggtaaaggaa aaaaaggaaa 120  
 aaacaaaaag gaacaataac caaaaagggtg aatatccaaa aggaagaaac caaaaacca 180  
 aaaataaagg tacaagagta nacatataaa gatcaagata agaagagagg gtacgcttag 240  
 aagcatcaca ccatatagga aagcggttaa gcatgaaaga aaataaatcc gaaaaagaag 300  
 agaaaaagggt aagaaagagg accgaatc 328

<210> 4353  
 <211> 404

<212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-B4  
 <400> 4353  
 cccacgcggt cgaagcaagt ctatgttatc tcctttattg gagaaatata ccaatattat 60  
 gattgccggt aaccatgata gatatacccg acaaattgcc aatttgctgg aagaatattt 120  
 tggagattat ctgcgaggtg gaaagcaatg ggacgctgga aaatggaaag aggaggagat 180  
 gaaagacgat gcatttcccc gagtttatga ccacgcgaga tggtttgggt tgaaaattgt 240  
 tgtattggat caagttgggt attggagaga cagagtacga ttgaaccaat gatatgtggt 300  
 tgtgtaaatt aggcgagacc taccagatgg tcatttgggg agaattccgc accacaattg 360  
 caccgatttg agcgactatt ttaggaattg gatgcgtctc gttg 404

<210> 4354  
 <211> 428  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-B6  
 <400> 4354  
 attcgcgggt cgaccacgc gaccacccac gcgtccgagt gtttcgtctc cacggagaag 60  
 acaccgtcat cgccgacact catattctcc ttcttattct tcttctatgt cacgttcgga 120  
 ctctgtattat tcttctgatt attctagaga ctattcttcg gattcgcgat cgtatgatag 180  
 tgctagtcgt tctaccgagt cgtctcggtc gcctcgtagg agaaagcgca gttattcacc 240  
 cagtcgttcg gactcaagaa gttattcgga tgcgtctcgt tctcctccac cgcgacatag 300  
 aaggagacga gcaagtccga gctattcgag gtcaccgtcg cgttcctctc gttcggtatc 360  
 ccgttctcct cgttcgggtg cgcgttctcc tcggtctaga agcttgagtc gttctcctgt 420  
 tggaataac 428

<210> 4355  
 <211> 412  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-B7

<400> 4355

aattcccggg ccgaccacg catccagaga aagagaattc gagaaaagtt gaaactactt 60

caggatgata ttgtagaggt aagaatattg ccgagcaact ggctcgttgg acaaggtttc 120

aacaagcccc ttccgttgct tgttacgtga gtttttccaa agaggtggat accaaagaaa 180

tactgagact tgtgttcgaa tcgaacaagc gatgtttttt accgagagtg gaagaaagtg 240

accacttgac attttatcag gcagatagct tggaacaaat atattcttgg gaacctaata 300

gttggggaat acgtgagcct ccagttacac agccggtact ttgtttacaa cgagAACCTT 360

tggatatggt catagtccca ggtcttgctt ttgatagaat gggacataga ct 412

<210> 4356

<211> 290

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-C10

<400> 4356

cgtccgcca cgcgaccggt acaagtaaga agactgtgtt acctgggcac aacggagaag 60

ttgttgttgg aaatacttta acagttacta tgagctgtga tcatcgagtg gtggatggcg 120

cagttggtgc aagatggttg aaaactttca aagatatcat cgagaagccc atcaacatgc 180

ttctttaatg acgcatatt ctttgtatga ctaccgtttt ctactgaagc tgttgcgccc 240

atttcaaatg tgccttttgt aaagcagctt actggacttt accagaaaaa 290

<210> 4357

<211> 472

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-C11

<400> 4357

gtcgaccgac gcgtccgggc aacctcaacg aagattcctt cgaatctctg gctggtgata 60

tttttcgtat gaagaagact atactatttc tttgcactgg aaacagctgt cgctcccaga 120

tggcggaagg attctgtaga aagcttcgtg gtgatgagtt cgagccctat tcggcaggag 180

tcgaacccaa aatgttagac agaagagcag ttgaagttat gaaagaagtt ggcgtggata 240

tctcacaaca aaaacccaag tccatccaag aattaccaac caaagacttt gacttagtgg 300  
 taactgtttg cggtcacgcc aacgagaatt gtccactttt tccaaacaag acaaaagtta 360  
 ttcacgtcgg ctttgaagat cctcctcttc ttgcaaagaa ctgctcaaca gaagaagaag 420  
 cattggaagt ttatcgacga gttcgtgatg aaattcaagg gtttatccaa ac 472

<210> 4358  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-C12  
 <400> 4358

gtccggatat aatatcgatg ttcggcctgg agtttccgtt tttgatgtcg ttcacgaaa 60  
 agttctgagg atatgaatga gcattcccgt cttcagttgc aacttttttg ntgggaagac 120  
 aacgaacata tcaccgacca agttgtgata gcggttggtg tcacacctcg ccaagagttg 180  
 gcagaacaag caaggttaga aacagatccc gttgctggtg gtattcgcgt caatgcagcg 240  
 atgcaagtgg aaggtaatat ttatgctgca agagatgtcg caagtttctg ggatcgcgct 300  
 ttgggtagac gtcgtgtgga acactgggat catgcactag tcactggtag aattgctggt 360  
 gagaacatgg cnggaggaaa tgtaacttac gactgggaat ctatgttctg gtg 413

<210> 4359  
 <211> 406  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-C5  
 <400> 4359

attcgcgggc cgaccacgc atccacccac gcgtccggtg agccgctttt agtgaactct 60  
 tttctatggc tctgtttacg acgcctttgt ttggcacttc ccctaaaact accaatcgag 120  
 aagttgagca ctggatgaac aacctgaacg aagttcaaag tgttattcgt tcggtcgaac 180  
 caaagttaaa cagcactggg ggaaagtgga aggctgttgc tcaacacgta aaggaagttt 240  
 cagacgaact tagtcaaatt tttacaagg aagaccctca ttttgacgtc attgtcgtcg 300

gagtaaaactc tggtagaaaag ttgtgaaaaca gtcaaactga aatcgccaag aatgatgtgg 360  
 taagagagag ggcacttatg aggttgaaga agtacagcga cgagat 406

<210> 4360  
 <211> 390  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-C6  
 <400> 4360

ttcgccaaaa acaaacttgg tcctctttgc gataatgatc caagttttat cgaaagattt 60  
 caggattatc tagcgcttct agcatatgaa gatccagaaa agtcacccga gtttcacctc 120  
 atgtcgttgg aggaacgcga tagaactgcg gaagaagtca atggttgttt ggtaactttt 180  
 caagtgtatt actcttttagg tcttcttgga aggttttcgt tattggaacg actgattcgt 240  
 cagctgggag tgactatgga cacattatct gaactttccg attccaacaa ggaaaagaaa 300  
 tggagcttac atgattatgt tatttgagaa gatatatgtt ttgtaaacga acaagaagct 360  
 ctttctactt ggaaataacc agttaatccg 390

<210> 4361  
 <211> 457  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-035-Q1-E1-D11  
 <400> 4361

cgtccgaaac ttgtacatcc tttttggttt ggaagatggg agggatatgaa aatattgaac 60  
 gaggtcctct aaggctgaag actggtatta tgaagaaaaa gaagaaaaaa ggcaaagttg 120  
 aagagcagga gactccgaaa gtcgctgtag gaaagacgga agcagagaag aggttcgaag 180  
 aaaagaaaag acaacgtgag gaacaaaggt tgaaagagga agcacaactt tcttaccggt 240  
 ccaagataga aaaatttaac gaacagctta gagaagaacc agaacacttt gacgttccaa 300  
 aggtgtgccc aacaaagtaa caagagttgc gacaacattt tgcaaaatat cagaaaaggt 360  
 tccttcaaaa aagaattgca aagacgtaag tttaagaaaa ccttgggtta acaattttcc 420  
 aaacaatccg aagcacgaac aataatatac tcctccc 457

<210> 4362  
 <211> 383  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-035-Q1-E1-E11  
  
 <400> 4362  
  
 ggctgcccga cgcgtccgcc cacgcaaccg cccacgcgtc cggtaagatc gttttatggt 60  
 ggctgaggac ttgacctttc agttctttgc atttttttct tggactcaga gaacactttt 120  
 caaacacacc tgtaaagtgt cacaacataa attcacgagt cttccatgca gagtatcgtc 180  
 agcgaaatta cctgcgatac ggacttttcc tgttggtacc atgggattga acgactcgta 240  
 cagagaacga ctaagtatat tcgatcttac cgtagaagaa gtcgctgaag actacggcct 300  
 acctttggaa tacgtcatcg atgtacttat cagtaatggt gtggaagaac ctgtataccc 360  
 taacgacggt ctgtcaagcc gag 383

<210> 4363  
 <211> 413  
 <212> DNA  
 <213> Cyanidium caldarium  
  
 <223> Clone ID: LIB190-035-Q1-E1-E8  
  
 <400> 4363  
  
 aattcgccgg tcgaccacg catccgctta ttctcggtat ttttgtaact tttgcactag 60  
 tcgaagctgg aaagagtccc aaaataacag atagagtata tttggatatt caagtcggtg 120  
 acaaaccttt gggaaggatt gtcataggct tattcggcaa tacaacaccc aaaacagtag 180  
 aaaactttta acagcttgca acccatgaac acggatttgg ttacaaagga agtaaatctc 240  
 accgagtgat taaaaacttt atgatccaag gaggtgactt tacaaaggga gatggcacag 300  
 gctgaaagag tatctatggc gagcgattcg aagatgagaa ctttaaaata agacattccg 360  
 ttccaggacg tgtctcgatg gctaattcgg gaaggaatac aaactgctct cag 413

<210> 4364  
 <211> 397  
 <212> DNA  
 <213> Cyanidium caldarium



<223> unsure at all n locations  
 <223> Clone ID: LIB190-035-Q1-E1-G6

<400> 4364

attgncgggt cgacccacgc atccagcgtc cagtatgaaa ggagaaacga gtgtagcact 60  
 gtctagtcgt ccaactcagc gaaacagcaa taactgtgaa aatgcagtaa actagcagta 120  
 ggacggaaag accccataat tcttgactag ataggtttag ggaggagaga gaatcatgaa 180  
 gtagaggagg tggggtaaga gatgaaagac cactgcatga ggataaggaa tctaactgag 240  
 taaggaaaat aagcttaagc tagtttggct ggggaagtaa agcctaagaa agagtaaatt 300  
 aggcaagcaa aggcattgaga gaagtataat agcagaagca tgcttgaaga aaaagaaaga 360  
 gatttcagaa aggaagaaa agtcagctat agagaac 397

<210> 4365  
 <211> 448  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-035-Q1-E1-H9

<400> 4365

gtcgaccgac gcgtccgccc acgcgaccgg ctgctgctgc tgcattgaaa gaattgtagg 60  
 cggtgatggg ttggtagaaa cgacgcgaag caagttcaac tgtacttgcg tgtgtgtatt 120  
 caatggaata agtaataagt gttgattggc cttgtaactt tgttgaggta tgtaaacaac 180  
 ccttgatgtc cgtcaagagg ttgatgaaaa aaatcatgcg cgtcgacaga agtggtacca 240  
 tctgcgtggt ttggtaccgc atatgaagat gccttgctaa gctgactctt tcatcgtgct 300  
 agagttgtgc tataactttt taaaacttgt ttttaaccgtt gttgagacta ggtttgttgg 360  
 ttatttgggt tttatatata tatatatata tatatatata tatatataga gagagagaga 420  
 gagagagaga gagagaggga gaaaactg 448

<210> 4366  
 <211> 422  
 <212> DNA  
 <213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-A10

<400> 4366

cacgcgtccg gtagataccc ggtggggatg agcagaacag taagcggagg aaaagaaacc 60  
 agttggaatt cccctagtag gggcgatcga agcgggaaga gccactatg agaaacctct 120  
 ttttctttgg agaaaagagg agatgtatgt gatacaagac aagaaatatc tgcaagaaga 180  
 agtagagcaa atttcctgta atggaatatc atggatgggtg agaagcccggt ttatctctttt 240  
 tctttgtatg gaagctgcgt tacgatattt cttgttgtgg agtcgggttg tttggtagta 300  
 cagccttaat tttgtgggtg ttatcaatca tccaaggcta aagacgtaga ccgagaacct 360  
 tacctctcca agaattgtgtt gcacggctgt cgaaagaacg tgctgtgaac tgagagaacg 420  
 ta 422

<210> 4367  
 <211> 266  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> Clone ID: LIB190-036-Q1-E1-A11  
 <400> 4367

gagtcgtatt aggatgagca taacagtaag cgtaggaaca taaactaatt ggaattcccc 60  
 tagtaggcgc gttccaacag gcaagggact agtatgagaa cactctttta ccttggctta 120  
 agaaggaaat ctactgtgat acaaaacact gaatatccgc aacaagaata gagtaaatta 180  
 ccagtaaccg tatatcaata atgttttagaa gccatttag ctcttttctg tgtatgtcat 240  
 ctacgttacg atatttctta ttgtgg 266

<210> 4368  
 <211> 481  
 <212> DNA  
 <213> Cyanidium caldarium  
 <223> unsure at all n locations  
 <223> Clone ID: LIB190-036-Q1-E1-A12  
 <400> 4368

ttcgcgggtg cgccccacgc gtccggataa agtatatact ctgttatcga gaccagatgc 60  
 tccatcgtct cttaaagaaa aaattccagt cgatgtttct aagaaaagta ctgtggcgtc 120  
 ttcaacgaaa cttgcttcca atgaggattc aaaatatcca acgcttcctt ctgttcgaat 180

aggctcggta gctggtcttt taagtttctt tggagatgaa aggtgcatcg acttgatatcg 240  
actgggtcaa cgattgcagt tggatgtaga tgacctttat cctcttttag aagctggagt 300  
tattctaaat atactcaaag taactgaggg agatgttatg ttgacagatt caaggagtcg 360  
atcttctgtg tgcgtctatt gatgataaga agagcatggg acgagaagct ttattgcagt 420  
cgggagggcg tcggttgatt caacaaattt atcggttgct tcaacannac aaacgagtcg 480  
a 481

<210> 4369  
<211> 374  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-A3  
<400> 4369

cgggcccacc cacgcgtcag agacacatca catatcttcg gaagaagtac aacatataga 60  
aaagttgaag gagcgagacg atgaaagacg tagagaagaa gctattgcaa agttgaagga 120  
agtcggaaat agtggttctg gctatcttgg cctcagtgtc gacaacttca agttagataa 180  
ggatcctgcc tcaggttcac ataacatacg actagaaaag tagatttatt acaaaatatac 240  
ttaactactg taaaaaactg cgctacgata tttcttggtg tggaatcggg ttgtttggta 300  
ataaagcctt aattttgtgg gtgtaataaa tcatccaagg ctaaatacgt acagagagac 360  
cgatagcgaa caag 374

<210> 4370  
<211> 282  
<212> DNA  
<213> Cyanidium caldarium  
<223> Clone ID: LIB190-036-Q1-E1-A5  
<400> 4370

cgagagatcg cgacgcaaga gtgaagatgg aacactggag tccttataaa gacgaacttg 60  
tagctacagc aaaggcgtg gtaactcctg ggaaaggaat ccttgctggg gatgagtcta 120  
cgggcactat aggaaaacgt tttgcttcca taaaggtgga gaataacgaa gaaaatcgca 180  
ggagctatcg ggagctttta ttactactc ctaactttgg tcagtatatt tcgggggtta 240

tcacttttga ggaaacgttg tatcacagga ctagtcaagg aa

282

<210> 4371  
<211> 426  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-B10  
  
<400> 4371

taccggaccg taattcgagg gtgcgccccg cgcgtccggt attaatgatg ccttggtttt 60  
agttttacca ggcttatacct ttgttattac tggtaatcgt atattctgta gacgctcgga 120  
cttgaatgaa acggaagcat tggagtcctg cttttcgttt atgaagatat gccccacgta 180  
caagtcgttg gagattcttt tgggaaggcga gcaaatttat gtagaagaac tcgtgcctat 240  
tgtatttcgt ttcgttgaag actttcttca ttttcttttt gacaattgga aaaccgtaag 300  
ttacggctct ccctcgaaga aggacctaca gtctggtttg tggagagagc aagcgcaaaa 360  
ctggattcgt tcttttcgtc agctgtacac agaagtggag ttatttatga agatggtaaa 420  
tacgat 426

<210> 4372  
<211> 58  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-B7  
  
<400> 4372

attcccgggc cgaccacgc atccacccac gcgtccgccc acgcgtccgt gttttctt 58

<210> 4373  
<211> 168  
<212> DNA  
<213> Cyanidium caldarium  
  
<223> Clone ID: LIB190-036-Q1-E1-B8  
  
<400> 4373

accacgcat ccagccacgc gtccgcccac gcgtccgtgt attcttaagc aaaaacatca 60  
ggtacaaaat cagattctga cagcttttgg aaaaggatga aatcgactca actttgtcgg 120

gtgcgtcggtt tcttaggggtg taatacttat ctatgatgtg cgacttca

168

<210> 4374

<211> 454

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-B9

<400> 4374

ccacgcgacc gccaacgcgt ccgagcagca aaccagagag gaaagcggtta aagcatgaga 60  
gaaaagccgt actgaagacc gacacaggta ctcgaggaga aaggagaccc aaattaaggt 120  
gagagaatgg acgataagga actaggcaaa aggatatggt atctgcggta gaacatatga 180  
aagaagcagc accgactgtt tagcaaaaac acagcactct gcagaaaaga gaaaatgtaa 240  
agtatagagt gtgcggcctg ccaaatagta gagaagaaat cgatgaaagt gaaagcgagt 300  
aaaagatgag gtatagagaa tggcgggtcct aactgtaagg atccaaagggt agcgaagtaa 360  
atagacgttt gaaagcgctc cagtatgaaa ggagaaacga gtgtagcact gtctagtcgt 420  
ccaactcagc gaaacagcaa taactgtgaa aatg 454

<210> 4375

<211> 424

<212> DNA

<213> Cyanidium caldarium

<223> Clone ID: LIB190-036-Q1-E1-C1

<400> 4375

cgggtcggcc cacgcgtccg atattatttg tgcttggaca atggttgcaa agactgctct 60  
gagttgcctc tttctctctt tccttatcgc tgccgcagtt gcagccgacg tagtttcaga 120  
ggagagatgg ggatatgctc agcaaaccga acaacagcaa cagtgcacac aagtatgtaa 180  
acagtatgca tactatcaga gtccagtctg cacttccgta accacacaga gcccatactg 240  
gacccaatgc tcgaagactg tgcaaaccct tgtcccaagc cagtgcagta cttataccca 300  
atctcctaca tggacctatt gcagcaccta caccaccact agcgtaccat ctcaatgcag 360  
caaggcogtg actacctata ctcaaaccctg ctgtgcttat gcccaacaaa cttcctatgc 420  
agtc 454